

1 Abstract

2 *Aim:* Based on the theory of labelling, this paper sought to better understand doping norms in
3 Swiss national and international elite cycling.

4 *Methods:* The investigation was based on 16 semi-structured interviews conducted in 2007
5 with eight active Swiss national and international elite cyclists and other people involved in
6 cycling (coaches, physicians, cycling team and individual managers, journalists).

7 *Findings:* Doping was considered deviant at the national elite level, but not at the
8 international level. At the national elite level, dopers were considered the ‘outsiders’, and the
9 ‘insiders’ were cyclists who did not use performance-enhancing substances. In contrast at the
10 international elite level, dopers were considered the ‘insiders’. Nevertheless, some changes
11 were observed in international elite cycling: even if some social pressures to dope persisted at
12 the international elite level, they were less strong. Clean cyclists were not harassed or
13 excluded from international elite cycling. Notably, a personal physician outside the cycling
14 environment emerged as the rule creator and enforcer, and could be considered the moral
15 entrepreneur in this study. Finally, the definition of doping in the cycling environment
16 differed from the World Anti-Doping Agency (WADA).

17 *Conclusions and Implications:* Doping norms in international elite cycling have evolved
18 slowly. It seems important that the WADA continues its effort to develop more efficient
19 preventive and repressive anti-doping actions, and to extend these measures to all persons
20 involved in doping practices, such as personal physicians who play an important role in
21 doping use and norms.

22 *Keywords:* cycling; theory of labelling; deviance; drugs; Switzerland

23

Doping Use and Deviance in Swiss National and International Elite Cycling

1. Introduction

Many studies have attempted to investigate the influence of social structure on individual action and identity using sociological and psychological perspectives. Social norms are a widely used concept for explaining human behaviour (Coleman, 1990). As conduct rules, these norms imply that a certain type of behaviour is expected by others and enforced by external sanctions that are social rather than economic in nature. Generally, people who deviate from certain social norms are punished or harassed by ‘insiders’ (Coleman, 1990; Lindbeck & Snower, 2001). For interactionists, deviance is not considered a pathological act going against consensual norms, but as a social phenomenon that consists of a set of interpretations and social reactions (Macionis & Gerber, 2011; Rubington & Weinberg, 2008). Interactionists work with relative rather than absolute definitions of deviance: for them, there are no behaviours that are intrinsically deviant (Anderson & Taylor, 2009). Influenced by social constructionism and symbolic interactionism (Macionis & Gerber, 2011), Becker (1963) developed the theory of labelling in the early 1960s and illustrated it with two cases: marijuana users in the United States and Chicago dance musicians. Labelling is an active social process of how particular acts become defined as deviant: “Social groups create deviance by making the rules whose infraction constitutes deviance and by applying those rules to particular people and labelling them as ‘outsiders’ [...] Deviant behaviour is behaviour that people so label” (Becker, 1963, p. 9). The behaviour that people exhibit may sometimes be labelled deviant by others, but on other occasions it may be regarded as acceptable and even normal. Rules are the products of persons or organisations and “we can think of the people who exhibit such enterprise as *moral entrepreneurs*” (Becker, 1963, p. 147). The moral entrepreneurs act as rule creators by crusading for the passage of rules, laws, and policies against behaviours they find abhorrent, or as rule enforcers by administering and implementing them. Becker (1963) emphasized the need for empirical research: “The most persistent difficulty in the scientific study of deviant behaviour is a lack of solid data, a paucity of facts and information on which to base our theories” (Becker, 1963, p. 165).

On the one hand, the theory of labelling presents some limitations and is not adapted for all types of deviance. As underlined by Christiansen (2010), “to say that genocide or high-school massacres are only deviant behaviour because we label them so is not only contra-intuitive but also dangerous” (p. 94). On the other hand, the interactionist view of deviance has proven to be useful when analysing sports doping phenomena (Brissonneau, Aubel, & Ohl,

58 2008; Brissonneau, Defrance, Fincoeur, Lentillon-Kaestner, & Ohl, 2009; Christiansen, 2010;
59 Goode, 2011; Peretti-Watel, Guagliardo, Verger, Mignon, Pruvost, & Obadia, 2004; Smith,
60 2015; Stokvis, 2003; Waddington, 2000).

61 In cycling, the Festina scandal at the 1998 Tour de France highlighted the widespread
62 doping in international elite cycling and the involvement of physicians in the doping
63 (Brissonneau et al., 2008; Waddington, 2000). During the period of organised team doping,
64 doping was a common practice among professional cyclists; drug use was a shared practice
65 and contributed to the subculture of doping in cycling (Brissonneau, 2007; Kimmage, 2001;
66 L -Germain & Leca, 2005; Lentillon-Kaestner, 2013; Lentillon-Kaestner & Carstairs, 2010;
67 Schneider, 2006; Smith, 2015; Waddington, 2000). The Festina scandal triggered changes in
68 attitudes towards doping; according to Lentillon-Kaestner’s (2013) study, doping use was a
69 part of cycling culture for the cyclists of the “former generation” (i.e., those who stated their
70 cycling career before the 1998 Festina scandal), but not for the cyclists of the “new
71 generation”, who have a new attitude towards doping. Doping use decreased slowly, however,
72 it did not disappear (Bassons, 2000; Lentillon-Kaestner, 2013; Mignon, 2003). Since the
73 Festina scandal, cyclists have started to confess their doping behaviours (e.g., Laurent
74 Brochard and Alex Z lle in 1998; J r me Chiotti, Luc Leblanc and Richard Virenque in
75 2000; Erik Zabel, Bjarne Riss, Johan Museeuw in 2007, Laurent Fignon in 2009, Danilo Di
76 Luca in 2010, Lance Armstrong in 2013). Lentillon-Kaestner and Carstairs (2010) underlined
77 the importance of the transition from the national to international elite levels in the evolution
78 of cyclists’ doping behaviours. Some studies have shown that doping was accepted as a
79 shared practice in the peloton but not at the lower levels of practice (Christiansen, 2010;
80 Lentillon-Kaestner & Carstairs, 2010). A number of studies have underlined the importance
81 of social influences (mostly from other more experienced cyclists and physicians) in doping
82 behaviours (Gucciardi, Jalleh, & Donovan, 2010; Hardie, Shilbury, Ware, & Bozzi, 2012;
83 Lentillon-Kaestner, 2013; Lentillon-Kaestner & Carstairs, 2010; Lentillon-Kaestner, Hagger,
84 & Hardcastle, 2012; Lucidi, Zelli, Mallia, Grano, Russo, & Violani, 2008; Waddington, 2000;
85 Zelli, Mallia, & Lucidi, 2010).

86 The literature on doping in cycling currently lacks in-depth analyses of how these
87 doping subcultures were built at the national and international elite levels due to the
88 theoretical approaches taken and focus on cyclists’ views. Using Becker’s (1963) labelling
89 theory, the purpose of this paper was to better understand doping norms and subcultures in
90 Swiss national and international elite cycling based on interviews conducted in 2007.
91 Interviews from 2007 represent valuable data in terms of understanding the evolution of

92 doping norms and subcultures in cycling. Firstly, the effects of the Festina scandal were still
93 being felt in international cycling in terms of the increased implementation of anti-doping
94 measures in international elite cycling (Christiansen, 2005; Lentillon-Kaestner, 2013). As
95 underlined by Lentillon-Kaestner (2013), “the Festina scandal highlighted the need for an
96 independent, international agency that would set unified standards for anti-doping policies
97 and coordinate the efforts of sports organisations and public authorities” (p. 189). The Festina
98 scandal was a primary catalyst for the formation of the World Anti-Doping Agency (WADA)
99 established in 1999, **that published** the first version of the World Anti-Doping Code in 2004
100 (Wagner, 2010). Revisions to the Code and evolution of anti-doping practices have seen many
101 other international anti-doping measures implemented since 2004. The Anti-Doping
102 Administration & Management System (ADAMS) was launched in 2005 for the initial pilot
103 phase and implemented in 2009 (WADA, 2009). ADAMS consists of a web-based database
104 management system on which the athletes provide required information about their
105 whereabouts to enable out-of-competition drug testing. The athlete biological passport was
106 proposed in the early 2000s, with cycling the first sport to introduce its use in 2008¹. The
107 athlete biological passport is an indirect method of doping detection based on the individual
108 and longitudinal monitoring of haematological or urine markers (Saugy, Lundby, &
109 Robinson, 2014). Formal operating guidelines and mandatory standards were published
110 following experience with the passport (WADA, 2013).

111 **Secondly**, 2005 saw the introduction of the Union Cycliste International (UCI) Pro
112 Tour (Benijts & Lagae, 2012; Morrow & Idle, 2008). As underlined by Morrow and Idle
113 (2008), “the Pro Tour was a radical change in that it sought to create league in professional
114 road cycling, in which all the best riders and the best events were included (p. 315). These
115 **two** events make examining interviews about doping with cyclists from 2007 a useful test of
116 Becker’s labelling theory.

117

118 **2. Methods**

119 This article was based on research financed by the World Anti-Doping Agency
120 (WADA) and was approved by the Ethics Committee at the University of Lausanne,
121 Switzerland.

122

123 **2.1 Participants**

¹ <http://www.uci.ch/clean-sport/the-athlete-biological-passport-abp/>

124 Participants contributed to this research on a voluntary basis. To better understand
125 how the doping subculture was built at the Swiss national and international elite levels,
126 attention was focused on active cyclists and active social actors in the cycling environment in
127 Switzerland at the time. All of the participants who were asked to participate agreed to take
128 part in the study: eight young active cyclists, two coaches, three physicians, two cycling team
129 managers, two individual cycling managers and one cycling journalist were interviewed. All
130 participants were male. It is noteworthy that all of the coaches, team or individual managers
131 interviewed had been international elite cyclists before the Festina scandal. The eight active
132 cyclists were selected from among the best young cyclists of Switzerland. Six were men in
133 the under-23 category (U23) who hoped to find an international elite team in the near future.
134 Two had already found a UCI Pro Tour team (neo-professional), one for just over a year (Pro
135 Tour A) and the other three years (Pro Tour B). All of the cyclists interviewed were or had
136 been on the national team in the junior or under-23 category.²

137

138 **2.2 Data Collection**

139 The data were collected through 16 semi-structured interviews conducted in 2007. All
140 interviews were recorded and transcribed verbatim. The interview protocols (i.e., for cyclists,
141 coaches, managers, physicians) were adapted from the guide used by Trabal, Buisine,
142 Brissonneau, and Defrance (2006) in their investigation of doping among professional
143 cyclists. The interviews with cyclists included questions about each step of their career (new
144 team, category, trainer, competition level), their training (type, quantity), the competitions
145 (type, quantity), their business contacts (coach, manager, doctor), their family and social life,
146 their health (physical and psychological) and their use of legal and illegal performance-
147 enhancing substances (type, quantity, moment of use, people involved). Interviews with
148 physicians, team/individual coaches and managers included questions about their respective
149 occupation, sport experience, personal role in training, medical, material, dietetic, cyclists'
150 daily life supervision, relationships with cyclists, and experiences/perceptions with regard to
151 doping behaviours and doping culture in cycling.

152 Building interviewees' trust to increase data reliability relied on a four step process.
153 First, before the interviews, the goal of this research was clearly explained. Second, the
154 participants were promised complete anonymity: the names of towns, teams, races, cyclists
155 and other people were deleted from the transcript. Third, the interviewees gave signed consent

² An International Cycling Union (UCI) category: the elite racers who are 19 to 22 years old are classified in the category "U23" (under 23: less than 23 years).

156 outlining their rights. Finally, the transcript was sent to the participants by e-mail; they could
157 add, delete or make changes to the transcript. Data analysis began only after the participants
158 had revised or approved the transcript.

159

160 **2.3 Data Analysis**

161 The transcribed interviews were analysed using thematic content analysis (as
162 described by Mucchielli, 1998). Both, deductive and inductive approaches were used. First, a
163 deductive (theory-driven) approach based on Becker's (1963) theory was used. Following
164 transcription, the first step was to identify and select all data that responded to the following:
165 Was doping considered deviant at the national and international elite levels? Who was
166 accepted, harassed, or excluded in national and international elite cycling? How were doping
167 norms built at both levels? Who were the moral entrepreneurs in national and international
168 elite cycling? Secondly, an inductive (data-driven) analysis was used: the investigator read
169 each transcript several times and determined the emergent themes related to Becker's (1963)
170 theory. The data were classified in corresponding categories and sub-categories arising from
171 the multiple readings. Next, the categories were compared with each other, and the
172 overarching themes across the interviews summarised. The interviews were reread to refine
173 and verify the emergent themes. Three major themes emerged from the analyses: doping
174 norms, 'insiders' and 'outsiders', and moral entrepreneurs.

175

176 **3. Findings**

177 **3.1 Doping Norms at the Swiss National and International Elite Levels**

178 The interviews revealed different doping norms in Swiss national and international
179 elite cycling in 2007. Doping was perceived by interviewees as deviant only for the national
180 elite level.

181

182 **3.1.1 A necessity in international elite cycling.**

183 **Doping under supervision** was generally accepted at the international elite level **by**
184 **Swiss national and international elite cyclists interviewed (except by one U23 cyclist).**
185 Without doping substances, international elite cycling was considered an unhealthy activity.
186 **Doping under supervision was perceived as health protection for professional cyclists,**
187 **underlined by a neo-professional cyclist (Pro Tour A):**

188 Up to now, there have never been accidents caused by doping. Apart from **the** Simpson
189 **case**, but that was many years ago and I think it was never proven. The risks are more

190 long-term risks. **But, the other day**, I saw a program in which some people aged 60 and
191 older in the United States took hormones to **avoid aging!** Therefore, **maybe** cyclists will
192 live until they are 120 years old!

193

194 **3.1.2 Deviant at the Swiss national elite level.**

195 By comparison, doping at the national elite level was considered deviant. Before
196 moving to the international elite level, cyclists had to prove that they could perform without
197 doping substances. One neo-professional cyclist (Pro Tour A) declared:

198 I think before becoming professional, it [taking illegal performance-enhancing
199 substances] is worse than at the international elite level, because the national elite
200 cyclists who dope do not have the level and then they dope. While at the international
201 elite level, you do not become professional if you do not have the potential. And then,
202 we all have a certain level. Afterwards, [at the international elite level] it's not the
203 substances that make a difference. While at the national elite level, there are guys who
204 are very bad and they dope.

205 This non-acceptance of doping at the national elite level pushed the neo-professional
206 cyclists to hide their new doping practices from national elite cyclists. An U23 cyclist,
207 explained his experience:

208 **Last year, [Pro Tour A] had an altitude training camp in X [a mountain]. He had**
209 **organised a cottage and he had also invited some U23 cyclists. And he stayed three**
210 **weeks to prepare himself for the Tour of Spain. [A friend] once woke up at night and**
211 **saw a big box in the bathroom. He wondered what was inside the box. [Since he has**
212 **become professional, Pro Tour A] did not tell anyone about his recuperation methods**
213 **anymore. Another U23 cyclist woke up that night and they opened the box together: it**
214 **was a box full of syringes: a cubic meter box full of syringes!**

215 **This statement underlined the difference of doping culture between the Swiss national**
216 **and international elite cycling. Swiss national elite cyclists had a lot of contacts with neo-**
217 **professional and professional cyclists allowing them to be aware of the doping practices in**
218 **international cycling.**

219

220 **3.1.3 Doping in the peloton.**

221 When focusing on doping acceptance in a group, it is important to verify the definition
222 of doping that is being used as the reference. Cyclists did not refer to the WADA prohibited
223 list to define doping since cortisone was not considered a doping substance in national and

224 international elite cycling. Even if doping was not accepted in national elite cycling, the use
225 of cortisone was widespread. **Seven of the eight cyclists interviewed confessed misuses of**
226 **TUEs for cortisone.** An U23 cyclist, stated:

227 All the riders I know, they all have tried cortisone. [...] Yes, they take therapeutic use
228 exemptions (TUEs). [...] They play with the rules. It depends what you mean by doping
229 but everyone I know, they do that. They say that they hurt their knee; they will get two
230 cortisone injections in the buttocks and have a TUE even though they did not hurt their
231 knee.

232 The misuse of TUEs seemed to be the first step in doping for the national elite cyclists.
233 TUEs allowed cyclists to take banned substances without risk of testing positive, as
234 underlined by an U23 cyclist: “If we want to dope legally we can. Just find the right physician
235 who gives TUEs easily and that’s all.”

236 **Besides cortisone, none cyclists interviewed declared to use other illegal performance-**
237 **enhancing substances.** Finally, except for the widespread use of cortisone - a substance not
238 considered doping at the national elite cycling level - the use of other banned substances was
239 uncommon and considered deviant in national elite cycling.

240

241 **3.2 ‘Insiders’ and ‘Outsiders’**

242 At the Swiss national elite level, clean cyclists were presented as ‘insiders’ and dopers
243 the ‘outsiders’. Some national elite cyclists preferred not to go (or they hid that they were
244 going) to the physician in favour of doping under medical supervision because of his
245 reputation and their fear of returning with illegal performance-enhancing substances. One
246 U23 cyclist stated:

247 [The doctor], he is well known in cycling [laughs]. But ethically I did not want to go to
248 this physician because he has a bad reputation, and it is still ambiguous. [...] My old
249 family doctor who studied with him always told me: ‘Do not go to this physician!’. He
250 does not deserve confidence.

251 Doped cyclists were considered ‘outsiders’ at the national elite level, as underlined by
252 Pro Tour A: “I think it is worse to dope at the national elite level than at the international elite
253 level, because you should not be able to get to the international elite level unless you have
254 potential.”

255 In contrast with the national elite level, dopers at the international elite cycling level
256 were considered the ‘insiders’. The cyclists interviewed never criticised dopers. In this way
257 one U23 cyclist declared:

258 They [international elite teams' managers] are afraid of getting caught, and the sponsor
259 does not want to risk that his team will get caught, so the team director, or the physician
260 say: 'Listen, we cannot do it within the team but the physician who lives there, he is
261 very good'. Or: 'We want some results, we do not want you to boost here, but if you
262 want to, go there'. Afterwards, it is the rider's fault. No, I think the cyclist always has a
263 choice. [...] He [the rider] is not a victim, but he is not just guilty. In my opinion, the
264 system is complex. There are many people who greatly simplify the problem of doping,
265 saying the cyclist has only to choose. Yes, it's true he has to choose, but it is not so easy.
266 I'd like to see some people in the place of cyclists; it is difficult to make **certain** choices
267 at **certain** times.

268 Notably, clean cyclists were considered 'outsiders' at the international elite level before
269 the Festina scandal. Before the Festina scandal, doping was a shared practice and directly
270 organized by the international elite teams. Professional cyclists who refused to dope were
271 considered 'outsiders': if they said openly that they were against doping, **they were harassed,**
272 **excluded by some riders in the peloton or by some members of team staff.** A trainer who was
273 a former professionnel cyclist related his experience:

274 There were some team directors who delegated to the trainers, they did not want to deal
275 with it. And then there were other directors who excluded me because supposedly I
276 would not have been good enough when I was younger because I did not take anything
277 [...] Generally, I still had good contact [with other professional cyclists], but on the
278 other hand, they knew that I was against doping. I may have been stupid enough to say
279 it [my position against doping]. It's true that I was put a little aside at one time. [...] I
280 did not agree to enter in the circle.

281 Before the Festina scandal, some international elite cyclists were forced to stop their
282 cycling careers because they refused to dope, as underlined by a physician:

283 And then, he [a former international elite cyclist] was against it [doping] and I
284 remember very well, because he told me: 'I stop, I'm tired, I do not want to be like
285 others, I do not want to **take** all that stuff [**illegal performance-enhancing substances**]'.
286 [...] He is the only rider who came to say frankly to me: 'Listen, I know that if I want to
287 progress, I have to **take** it [**illegal performance-enhancing substances**] and I do not want
288 to, so I stopped'.

289 At the international elite level, while social pressures to dope existed none led to
290 **harassment or** exclusion. After the Festina scandal, doping behaviours became more hidden
291 and cyclists only had suspicions on doping practices.

292 The two neo-professional cyclists interviewed did not reveal a sense of harrassement or
293 exclusion, but the social pressures to dope persisted. The more junior of two (Pro Tour A)
294 said: “The guys with old mindset, such as X in the Y [a race over many days] of 2007, he kept
295 saying to me: ‘...you have to wake up a little’. Because they do not believe that I am here
296 without taking anything. They do not believe it, they say: ‘You know [with] a little EPO, it is
297 possible to do it, [with] a little [more] power, you can do it’”.

298 The social pressure to dope made it very difficult for a cyclist to refuse at the
299 international elite level. A cyclists’ trainer commented:

300 It is a little like the mafia, it is the ‘jungle’ [at the international elite level]. That's why I
301 am against young cyclists becoming professional too early; they are not ready to face
302 the jungle. Because they are not yet prepared for such an amount of social influences,
303 that's the problem.

304

305 **3.3 The Moral Entrepreneur**

306 Since the Festina scandal, personal physicians outside the team organisation have
307 played a considerable role in doping. Cyclists chose their personal physicians according to
308 their reputations: in favour of medical supervision of doping or against doping.

309 The majority of cyclists interviewed had the same personal physician (Physician A)
310 who was in favour of doping under medical supervision. As underlined by a U23 cyclist,
311 physicians who were against doping were perceived as inefficient:

312 Yeah, so the last year, I felt tired all of a sudden and then I went to [Physician B] who,
313 compared to [Physician A], is considered a ‘clean doctor’. But I have discussed for
314 example with [former international elite cyclist] and he said: ‘Yes, but [Physician B] he
315 knows nothing’ ... He is frowned on.

316 In the Swiss cycling environment, Physician A had a high influence on the cyclists’
317 attitudes and behaviours towards doping and could be considered the moral entrepreneur in
318 the doping issue. Indeed, Physician A’s discourse about doping matched that of the cyclists
319 interviewed. For example, as with the cyclists interviewed, his definition of doping did not
320 match the WADA prohibited list:

321 Yes, but cortisone is not real doping. Every day, I do a cortisone injection to a guy who
322 has a peritendinitis, who is not a top athlete, who just wants to play football with his
323 friends who are 50 years old. [...] Well, it becomes doping if you take 5, 6 or 7 per
324 year, but I mean doing a cortisone injection is an absolute banality. I think there are
325 80% of footballers, even at a lower level, they have a cortisone injection a year. [...]

326 Cortisone has a refreshing effect, but it is also an interesting substance, because if the
327 elite athlete is tired, you give him an injection of cortisone and he will do much better.
328 Cortisone helps overcoming overtraining, etc. and so it is used. It is true that we must be
329 honest: even today, I think all cyclists, at one time or another, use cortisone. If the
330 athlete was tired, a team physician or someone would tell him: ‘Listen, I’ll make an
331 injection in a patellar tendinitis or tendonitis of the wrist’. And then we put the injection
332 into the buttock.

333 Like the cyclists, Physician A argued for doping under supervision to protect the
334 cyclists’ health:

335 EPO was officially banned but in fact was taken by everyone, because they created a
336 rule that they had to have hematocrit levels below 50. So the guy could take what he
337 wanted as long as [he did not exceed this limit]... EPO was an example where I fought a
338 long time: I thought it was a treatment, it could be a treatment. Why? Because a cyclist
339 would start the Tour of France with a hematocrit of 46. I have had two, three riders, X
340 and Y who finished the Tour of France hematocrit levels of 35 or 36. A cyclist may not
341 be well at 36. So I defended the idea, saying that if we keep the hematocrit level at 46,
342 we do sports medicine, it is not doping. If they pass from 46 to 55, it is doping. [...] Is it
343 really dangerous to give EPO to a guy? Then how do we explain that it is dangerous to
344 keep the hematocrit level at 46, while we give three times more quantity to a guy who
345 has kidney failure. So it is not credible for an athlete and then on the contrary, if we let
346 him self-medicate, what happened? They do often bullshit, and then they have
347 hematocrit levels of 60.

348 Further, Physician A was against broad legalised doping, but advocated for doping
349 under medical supervision and only for experienced cyclists:

350 No, I am not really for the legalization of doping use. We need to know what is really
351 dangerous, what is not. No study is made. And we say: ‘This product is dangerous
352 because it improves performance’. So, I do not believe it. [...] They [anabolic steroids]
353 are not dangerous substances. While the excessive person taking 10 times the dose
354 because he thinks he will be better, it may be excessive. But I would like to discuss
355 really what we can give, what we cannot give. And then, you give but only to
356 competent people, not free to everyone, like aspirin.

357 The national and international elite cyclists interviewed shared the physician’s idea of
358 supervised doping under medical follow-up at the international elite level, demonstrated by
359 the following comments from two cyclists:

360 When you go to see him [Physician A], he would say: ‘It’s better that I give
361 performance-enhancing substances to you under medical supervision than you go to buy
362 a growth hormone that comes from a human body in Germany or on the internet. He
363 prefers to have the control. While [Physician B, against doping], he protests even the
364 recoveries. Me, I assume, you make 35 000 kilometres in a year, you need a little bit of
365 vitamins but not... true vitamins, not only vitamin C, stuff like that. (Pro Tour A)
366 For him [Physician A], as he said, he thinks it is less bad to take, I do not know, EPO or
367 stuff like that, than to take anything [...] And I think at some point, for example at the
368 international elite level, he was not entirely wrong, because either way there are now, in
369 my opinion, lots of cyclists who take performance-enhancing substances, so it is better
370 that it is medically followed. (an U23 cyclist)

371 In addition, as the interviewed cyclists, Physician A did not accept doping in national
372 elite cycling:

373 With national elite cyclists, it's easy to say: ‘I give you nothing’. I tell them: ‘First,
374 show that you worth something’ [...] Right, that's what I told them: ‘Look, a guy like
375 David [former international elite cyclist], he is able to win a race without taking
376 anything. I'm sure, and I know because sometimes he took nothing. [...] So if you're not
377 able to win anything without doping, stop take doping substances. You will not only be
378 an average rider, doping might destroy your career and you will be seen as a cheat.

379

380 4. Discussion

381 The purpose of this paper was to better understand the doping norms in Swiss national
382 and international elite cycling using Becker’s (1963) labelling theory. This was achieved by
383 interviewing both active cyclists and other persons involved in the cycling environment who
384 play a role in the construction of doping norms (Brissonneau et al., 2008; Waddington, 2000).
385 Using Becker’s (1963) theory of labelling emerged as valuable for understanding how groups
386 create deviance concerning doping in cycling. In particular, the findings give an insight into
387 why and how doping was accepted at the international elite level but not at the national level.
388 Further, the findings underline how the phenomenon of ‘deviance’ was based on the reactions
389 and responses of others to an individual act (Becker, 1963).

390 Doping was considered deviant in national elite cycling but not at the international
391 elite level. The subculture of doping at the international elite level provides ways of avoiding
392 trouble with conventional society (Becker, 1963): cyclists learned from the moral
393 entrepreneur (Physician A in this study), and from more experienced cyclists, the techniques

394 needed to avoid positive doping tests (e.g., to use false TUEs or to play with EPO's limit).
395 Even if the Festina scandal saw some developments in doping use (Lentillon-Kaestner, 2013),
396 this study showed that, in 2007, doping use was still accepted as a norm in international elite
397 cycling. At the international elite level, the doped cyclists were considered 'insiders' and their
398 behaviours were valorised and never criticised by other cyclists. Before the Festina scandal,
399 clean professional cyclists were considered 'outsiders' and sanctioned because they did not
400 want to follow the group's doping norms. They were excluded by other professional cyclists
401 and forced to stop in extreme cases. By being hostile to 'outsiders', 'insiders' decrease the
402 'outsiders'' possibility of achievement and increase the monopolistic power of the 'insiders'
403 (Azard, 2004). Following the Festina scandal, doping practices have become more hidden
404 (Lentillon-Kaestner, 2013) and, even if the the subculture of doping was still present in
405 international elite cycling in 2007, the professional cyclists interviewed were not harassed or
406 excluded when they did not dope. Nevertheless, some social pressures to dope persisted at the
407 international elite level.

408 Social influences from significant others were very important to develop an
409 understanding of doping behaviours (Gucciardi et al., 2010; Lentillon-Kaestner, 2008;
410 Lentillon-Kaestner & Brissonneau, 2009; Lentillon-Kaestner & Carstairs, 2010; Lucidi et al.,
411 2008; Waddington, 2000; Zelli et al., 2010). The significant others for the active cyclists
412 interviewed were those who could help them reach their goals (professional and perform in
413 international elite cycling) through their experience and knowledge. More precisely in this
414 study, Physician A was identified as a dominant moral entrepreneur followed by the more
415 experienced professional cyclists. In most cases, these cyclists were part of an international
416 elite team before the Festina scandal, where doping was often organized within the team and
417 they had no real choices about doping. As underlined by Lentillon-Kaestner & Carstairs
418 (2010), "cyclists of the "former generation" still seemed to have power in international elite
419 cycling" (p. 341).

420 The finding also underscored a development in direct and indirect social influences
421 (Spichtig & Traxler, 2007) in international elite cycling. Before the Festina scandal, the direct
422 social influences principally came from team physicians, team support staff and other cyclists.
423 In 2007, the direct social influences had evolved and weakened. Clean professional cyclists
424 were no longer harassed directly even if direct social pressures to dope were coming from the
425 moral entrepreneur (Physician A) and from more experienced professional cyclists. These
426 direct influences existed next to the indirect social influences from the general atmosphere of
427 doping at the time (Denrell, 2008; Forgas & William, 2001). Social norms shape preferences

428 through a process of cultural learning (Harrison & Villena, 2008), which is why sometimes
429 individuals behave differently in groups than they do alone, and why behaviour differs in
430 diverse contexts. As Denrell (2008) argues, “you may conform to the majority opinion to
431 avoid being seen as deviant” (p. 47). As long as the cyclists from the “former generation” had
432 the power in the international elite peloton, it would be difficult to observe new doping norms
433 emerging. We can suppose that when the “new generation” of cyclists (who become
434 professional after the Festina scandal) will become significant others for young cyclists, the
435 doping acceptance in international elite cycling would decrease.

436 The norms take time to evolve. The non-exclusion of clean professional cyclists is an
437 important step in the development of doping norms in international elite cycling. In line
438 Azard (2004), doping norms seem to follow the idea that, in addition to humans’ conforming
439 to social norms, social norms evolve according to the benefits humans derive from them.
440 When a norm is costly to follow and people do not derive benefits from following it other
441 than avoiding social disapproval, the norm erodes over time. With the increase in the number
442 and efficiency of doping tests, it is actually very difficult to continue to organise doping in
443 international elite teams. Doping is becoming more individualised. If, before the Festina
444 scandal, team doctors played the primary role in introducing doping culture to international
445 elite teams as the moral entrepreneurs in doping norms (Brissonneau et al., 2008;
446 Waddington, 2000), then since the Festina scandal the role of the team doctor has been
447 reduced in favour of personal physicians (Dikic, McNamee, Günter, Markovic, & Vajgic,
448 2013; Lentillon-Kaestner, 2013).

449 Replicating this aspect of the study in the post-Lance Armstrong era of professional
450 cycling would enable a further insight into how doping norms have developed in international
451 elite cycling. The shifts in anti-doping policy and practice have been significant in terms of
452 drug testing (Backhouse, Patterson, & McKenna, 2012; Overbye, Knudsen & Pfister, 2013),
453 ADAMS and the biological passport (WADA, 2009, 2013). Further, more popular cyclists
454 have confessed to doping, which could have a significant impact on doping norms in the
455 international elite environment.

456 At the national elite level, clean cyclists were considered, in this study, the ‘insiders’
457 and the doped cyclists the ‘outsiders’. National elite cyclists had to prove that they had the
458 capacity to reach the international elite level without performance-enhancing substances. This
459 raises questions about the impact of the professionalisation and commercialisation of an
460 activity on the acceptance of doping behaviours. Previous studies have argued a link between
461 the use of performance-enhancing drugs in sport and professionalism as well as

462 commercialism (e.g. Brewer, 2002; Christiansen, 2010; Morrow & Idle, 2008). The notion
463 that “commercialism is an important factor within the professional road cycling network since
464 its inception” (Morrow & Idle, 2008, p. 331) has seen increasing commercial penetration in
465 sport, and more particularly in cycling has led to profound institutional changes that puts new
466 pressures on team managers and racers (Brewer, 2002). When riders become professionals,
467 their change in status comes with an increased workload, full-time commitment, more media
468 coverage, higher performance pressures and fatigue in exchange for popularity, media
469 presence and earnings. These changes could increase the acceptance of **illegal** performance-
470 enhancing substances or methods in professional road cycling. It is worth noting that similar
471 professionalism and commercialism pressures are experienced by other elite performers (e.g.,
472 politicians, musicians and actors), suggesting further studies could focus on comparing the
473 role of professionalism and commercialism on doping norms across elite performance
474 activities (e.g., comparing road cyclists and musicians).

475 Even though social influences to follow doping norms were high at the national and
476 international elite levels, some former professional cyclists interviewed did not follow the
477 group’s doping norms and were sanctioned. The resistance of some former professional
478 cyclists against the doping norms may be explained by their levels of norm sensitivity
479 (Spichtig & Traxler, 2007): some cyclists suffered less from sanctions (e.g., exclusion) than
480 others. Nevertheless, most of the time, the former professional cyclists preferred to hide their
481 positions against doping or to lie to avoid being labelled as ‘clean’ cyclists and be accepted in
482 international elite cycling. In the same way, the neo-professional cyclists who took
483 performance-enhancing substances hid their doping behaviours from national elite cyclists.
484 Becker (1963) noted that many people commit occasional nonconforming acts without
485 becoming involved in a sustained pattern of deviant activity. The main reason for this is that
486 most people do not get caught in their nonconformity and remain ‘secretly deviant’. As
487 Becker (1963) argues, one of the most important steps in the process of involvement in a
488 deviant career is the “experience of being caught and publicity labelled as deviant” (p. 31).
489 With the individualization of doping practices, the changes in international elite doping norms
490 and the externalization of doping networks, the doping was not anymore systematic in
491 international elite cycling than observed in Christiansen’s study (2005). This reinforces the
492 rejection of the commonly held view that professional cyclists all take part in the same
493 deviant subculture. Nevertheless, it was difficult to estimate the percentage of riders who
494 doped; doping practices were no longer shared but hidden, thus leading each rider to rely on
495 suspicion to inform their understanding of doping norms.

496 Even if the pervasive role of physicians in doping has been established in other studies
497 of cycling and sport more generally (Brissonneau et al., 2008; Christiansen, 2005; Dikic et al.,
498 2013; Waddington, 2000, 2005), this study has demonstrated the central role of personal
499 physicians in the construction of doping norms in national and international elite cycling. The
500 rule creator and enforcer, the moral entrepreneur as it was termed by Becker (1963), was in
501 this study a personal **physician**. The corollary is that the role of the team physician was
502 reduced (Christiansen, 2005). The systematic concealment of doping after the Festina scandal
503 (Lentillon-Kaestner, 2013) saw team staff and personal managers interviewed in this study
504 often being ignorant about their cyclists' doping behaviours. In comparison, Physician A's
505 discourse matched the discourses of the cyclists interviewed. Becker (1963) focused on those
506 in positions of power and authority who make and enforce the rules. In the case of doping, the
507 doctors have power because they can easily access performance-enhancing substances and
508 give TUEs. By prescribing performance-enhancing substances under medical supervision, the
509 doctors can help cyclists to achieve their cycling goals and excel at their profession in better
510 condition. The physician interviewed in this study justified his position in favour of doping
511 under medical supervision to protect the patients' health. Cyclists derived benefits from these
512 doping norms - that is why they accepted them and had complete confidence in their personal
513 physician.

514 This study underlined the problem of the definition of doping. The WADA uses an
515 ostentive definition, stating that "doping is defined as the occurrence of one or more of the
516 anti-doping rule violations set forth in Article 2.1 through Article 2.10 of the Code" (WADA
517 2015, p. 18). Each year the list of banned substance can change. For example, before 2004
518 caffeine was on the list and thus considered doping; after 2004, it was no longer on the list
519 and therefore not anymore considered doping. In the cycling environment, the definition of
520 doping was different from the official definition established by the WADA. Some cyclists
521 interviewed stated that they had never doped, but afterwards they declared that they had taken
522 cortisone thanks to a misuse of TUE. Cortisone was not considered doping in the cycling
523 environment, but was on the WADA prohibited list. The findings reported here suggest that,
524 in accordance with the more permissive definition of doping accepted in the cycling
525 environment, doping is accepted only at the international elite level but not at the national
526 level. If we refer to the WADA list of banned substances, the conclusion would differ because
527 our results showed that cortisone was widely used at the national elite level. This led to
528 vigilance regarding the definition of doping used as a reference by participants in doping
529 studies (Lentillon-Kaestner & Ohl, 2011).

530 The TUEs became a legal way to dope that circumvented existing anti-doping
531 regulation. The ADAMS, implemented in 2009, enables different data about individual
532 athletes such as whereabouts information, test results, TUEs and information on anti-doping
533 rule violations to be collected and aggregated (WADA, 2009). This information can be shared
534 by relevant stakeholders to drive a reduction in the misuses of TUEs. Nevertheless, even if
535 elite athletes support doping testing, elite athletes reported a remarkably low degree of trust in
536 the efficiency of some anti-doping efforts such as the whereabouts and the TUE systems, in
537 particular those athletes who have personal experience of these administrative procedures
538 (Hardie et al., 2012; Overby & Wagner, 2014). Taking into account the development of anti-
539 doping measures since 2007, it would be interesting to conduct additional studies on the
540 development of the misuse of TUEs in national elite cycling.

541 Although this study has strengths, it was not without its limitations. One limitation
542 concerns generalizability. The interviews used in this paper were conducted in only one
543 country, Switzerland, and thus, we cannot generalise the interviewee's attitudes to other
544 countries (Brissonneau et al., 2009; Ohl, Fincoeur, Lentillon-Kaestner, Defrance, &
545 Brissonneau, 2013). A second limitation concerns the topic of doping behaviours: it is
546 difficult to verify cyclists' claims about their own and others doping behaviours. Nevertheless,
547 Switzerland is a small country; all participants interviewed knew each other, facilitating the
548 data comparison. The impact of confessions of doping behaviour among elite cyclists is
549 unclear; for example, fewer professional cyclists confessed to doping in 2007 than confessed
550 in the years after the interviews. Another limitation concerns this study's focus on how social
551 norms influence behaviours without accounting for the organizational context of cycling and
552 cycling's anti-doping commitment. For example, the establishment in 2005 of the UCI Pro
553 Tour was a significant change (e.g., Pro Tour licences, events) affecting the professional road
554 cycling network, the interaction between its stakeholders and the balance of power among
555 those stakeholders (Morrow & Idle, 2008). A valuable extension to this study would be a
556 deeper analysis of the influence of cycling organizational settings and commitment to anti-
557 doping. A further limitation concerns the sample size of this study. For the purpose of this
558 study it was important to analyse in depth the statements of active cyclists, as well as other
559 persons involved in the cycling environment and doping practices; nevertheless, only two
560 active professional cyclists were interviewed in this study. While it would be better to
561 interview more active professional cyclists, the stigmatized nature of doping in cycling means
562 accessing ideal samples can be difficult. Qualitative methods imply using a smaller sample
563 than do quantitative methods. Nevertheless, with regard to our purpose, recounting data only

564 from interviews was the best choice for better understanding the construction of doping norms
565 in cycling. Finally, this study focused on male cyclists only. Exploring the experiences of
566 female cyclists to compare doping norms in male and female road cycling would be a
567 valuable extension to the current study. Despite the limitations of the present study, the results
568 provide a basis for further research to compare the doping norms at the national and
569 international elite levels in other sports in Switzerland or to compare the cycling doping
570 norms in other countries (Ohl et al., 2013).

571

572 **5. Conclusion**

573 There is nothing intrinsically normal or deviant about doping behaviours. The
574 perception of doping as deviant depends on the cycling context (whether it is at the national
575 and international elite level). This study gave an insight into how and why doping was
576 accepted in international elite cycling and was rejected in Swiss national elite cycling. Some
577 changes were observed in international elite cycling. Even if some social pressures to dope
578 persisted at the international elite level, they were less strong and clean cyclists were no
579 longer harassed or excluded from international elite cycling. Further, a personal physician
580 outside the cycling environment emerged as the rule creator and enforcer and could be
581 considered the moral entrepreneur in this study. Finally, the definition of doping in the
582 cycling environment differed from the definition from the WADA. Doping norms in
583 international elite cycling appear to have evolved slowly in the decade after the Festina
584 scandal. It seems important that the WADA continues its efforts to understand the role of the
585 full range of people involved in doping practices which the current study indicates also
586 includes personal physicians.

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588 References

- 589 Anderson, M. L., & Taylor, H. F. (2009). *Sociology: The Essentials*. Belmont, CA: Thomson
590 Wadsworth.
- 591 Azard, O. H. (2004). What sustains social norms and how they evolve? The case of tipping.
592 *Journal of Economic Behavior and Organization*, 54, 49-64. doi:
593 10.1016/j.jebo.2003.06.001
- 594 Backhouse, S. H., Patterson, L., & McKenna, J. (2012). Achieving the Olympic ideal:
595 preventing doping in sport. *Performance Enhancement & Health*, 1, 83-85. doi:
596 10.1016/j.peh.2012.08.001
- 597 Bassons, C. (2000). *Positif*. Paris: Stock.
- 598 Becker, H. (1963). *Outsiders: studies in the sociology of deviance*. New York: The Free
599 Press.
- 600 Benijts, T., & Lagae, W. (2012). Using program theory to evaluate sport league reforms: the
601 case of professional road cycling. *European Sport Management Quarterly*, 12(1), 83-109.
602 doi: 10.1080/16184742.2011.637941
- 603 Brewer, B. D. (2002). Commercialization in professional cycling 1950-2001: institutional
604 transformations and the "Rationalization of "Doping". *Sociology of Sport Journal*, 19(3),
605 276-301. Retrieved from
606 <http://www.humankinetics.com/acucustom/sitename/Documents/DocumentItem/5161.pdf>
- 607 Brissonneau, C. (2007). Le dopage dans le cyclisme professionnel au milieu des années 1990:
608 une reconstruction des valeurs sportives. *Déviante et Société*, 31(2), 129-148. doi:
609 10.3917/ds.312.0129
- 610 Brissonneau, C., Aubel, O., & Ohl, F. (2008). *L'épreuve du dopage. Sociologie du cyclisme*
611 *professionnel*. Paris: PUF.
- 612 Brissonneau, C., Defrance, J., Fincoeur, B., Lentillon-Kaestner, V., & Ohl, F. (2009).
613 *Carrière sportive et socialisation secondaire en cyclisme sur route: les cas de la Belgique,*
614 *la France et la Suisse*. Rapport de fin de recherche financée par l'Agence Mondiale
615 Antidopage (AMA). Lausanne: Institut des Sciences du Sport de l'Université de Lausanne.
- 616 Christiansen, A. V. (2005). The legacy of Festina: patterns of drug use in European cycling
617 since 1998. *Sport in History*, 25(3), 497-514. doi: 10.1080/17460260500396384
- 618 Christiansen, A. V. (2010). "We are not sporsmen, we are international elites": international
619 eliteism, doping and deviance in elite sport. *International Journal of Sport Management*
620 *and Marketing*, 7(1/2), 91-103. doi: 10.1504/IJSM.2010.029714

621 Coleman, J. S. (1990). *Foundations of social theory*. Cambridge (MA): Harvard University
622 Press.

623 Denrell, J. (2008). Indirect social influence. *Science*, 4, 321, 5885, 47-48, doi:
624 10.1126/science.1157667

625 Dikic, N., McNamee, M., Günter, H., Markovic, S. S. & Vajgic, B. (2013). Sports physicians,
626 ethics and antidoping governance: between assistance and negligence. *Br J Sports Med*, 47,
627 701-704. doi: 10.1136/bjsports-2012-091838

628 Forgas, J.P., Kipling, D.W. (2001). *Social influence: direct and indirect processes*.
629 Philadelphia: Psychology press.

630 GCDP (2013). *War on drugs*. Report of the global commission on drug policy. Retrieved
631 from <http://www.globalcommissionondrugs.org/reports/>

632 Goode, E. (2011). *Sports doping as deviance: anti-doping as moral panic*. Copenhagen:
633 International Network of Humanistic Doping Research.

634 Gucciardi, D. F., Jalleh, G., & Donovan, R. J. (2010). Does social desirability influence the
635 relationship between doping attitudes and doping susceptibility in athletes? *Psychology of*
636 *Sport and Exercise*, 11, 479-486. doi: 10.1016/j.psychsport.2010.06.002

637 Hardie, M., Shilbury, D., Ware, I., & Bozzi, C. (2012). *I wish I was twenty one now: beyond*
638 *doping in the Australian peloton*. Geelong, Vic: an Auskadi Samizdat.

639 Harrison, R., & Villena, M. (2008). *On the evolution of reciprocal behavior: a game theoretic*
640 *approach*. Santiago: Pontificia universidad catolica de Chile, Instituto de economia.

641 Kimmage, P. (2001). *Rough ride: Behind the wheel with a pro cyclist*. London: Random
642 House UK.

643 Laure, P. (1997). Doping in sport: doctors are providing drugs. *Br J Sports Med*, 31, 258-259.
644 doi: 10.1136/bsjm.31.3.258-b

645 Lê-Germain, E., & Leca, R. (2005). Les conduites dopantes fondatrices d'une sous culture
646 cycliste (1965-1999). *Revue Staps*, 70(4), 109-132. doi: 10.3917/sta.070.0109

647 Lentillon-Kaestner, V. (2008). Conduites dopantes chez les jeunes cyclistes du milieu
648 amateur au milieu professionnel. *Psychotropes*, 14(1), 41-57. doi: 10.3917/psyt.141.0041

649 Lentillon-Kaestner, V. (2013). The development of doping use in high-level cycling: from
650 team organised doping to advances in the fight against doping. *Scandinavian Journal of*
651 *Medicine and Science in Sports*, 23(2), 189-197. doi: 10.1111/j.1600-0838.2011.01370.x

652 Lentillon-Kaestner, V., & Brissonneau, C. (2009). Appropriation progressive de la culture du
653 dopage dans le cyclisme. *Déviance et Société*, 33(4), 519-541. doi: 10.3917/ds.334.0519

654 Lentillon-Kaestner, V., & Carstairs, C. (2010). Doping use among young elite cyclists: a
655 qualitative psychosociological approach. *Scandinavian Journal of Medicine and Science in*
656 *Sports*, 20, 336-345. doi: 10.1111/j.1600-0838.2009.00885.x

657 Lentillon-Kaestner, V., Hagger, M. S., & Hardcastle, S. (2012). Health and doping in elite
658 level cycling. *Scandinavian Journal of Medicine and Science in Sports*, 22(5), 596-606.
659 doi: 10.1111/j.1600-0838.2010.01281.x

660 Lentillon-Kaestner, V., & Ohl, F. (2011). Can we measure accurately the prevalence of
661 doping? *Scandinavian Journal of Medicine and Science in Sports*, 21(6), e132-e142. doi:
662 10.1111/j.1600-0838.2010.01199.x

663 Lindbeck, A., & Snower, D. J. (2001). Insiders versus outsiders. *Journal of Economic*
664 *Perspectives*, 15(1), 165-188. doi: 10.1257/jep.15.1.165

665 Lucidi, F., Zelli, A., Mallia, L., Grano, C., Russo, P., & Violani, C. (2008). The social-
666 cognitive mechanisms regulating adolescents' use of doping substances. *Journal of Sport*
667 *Sciences*, 26(5), 447-456. doi: 10.1080/02640410701579370

668 Macionis, J. J., & Gerber, L. M. (2011). *Sociology*. Toronto: Pearson Canada.

669 Mignon, P. (2003). The Tour de France and the doping issue. *The International Journal of*
670 *History of Sport*, 20(2), 227-245. doi: 10.1080/09523360412331305703

671 Morrow, S., & Idle, C. (2008). Understanding change in professional road cycling. *European*
672 *Sport Management Quarterly*, 8(4), 315-335. doi: 10.1080/16184740802461603

673 Mucchielli, R. (1998). *L'analyse de contenu: documents et communications*. Paris: Edition
674 ESF.

675 Ohl, F., Fincoeur, B., Lentillon-Kaestner, V., Defrance, J., & Brissonneau, C. (2013). The
676 socialization of young cyclists and the culture of doping. *International Review for the*
677 *Sociology of Sport*, published online first on July 24, 2013. doi: 10.1177/101269021345534.

678 Overbye, M., Knudsen, M.L., & Pfister, G. (2013). To dope or not to dope: Elite athletes'
679 perceptions of doping. *Performance Enhancement & Health*, 2, 119-134. doi:
680 10.1016/j.peh.2013.07.001

681 Overbye, M., & Wagner, U. (2014). Experiences, attitudes and trust: an inquiry into elite
682 athletes' perception of the whereabouts reporting system. *International Journal of Sport*
683 *Policy and Politics*, 6(3), 407-428. doi: 10.1080/19406940.2013.791712

684 Peretti-Watel, P., Guagliardo, V., Verger, P., Mignon, P., Pruvost, J., & Obadia, Y. (2004).
685 Attitudes toward doping and recreational drug use among french elite student-athletes.
686 *Sociology of Sport Journal*, 21(1), 1-17.

687 Rubington, E., & Weinberg, M. S. (2008). *Deviance: the interactionist perspective*. Boston:
688 Pearson Allyn & Bacon, 10th ed.

689 Saugy, M., Lundby, C., & Robinson, N. (2014). Monitoring of biological markers indicative
690 of doping: the athlete biological passport. *Br J Sports Med*, published online first on March
691 21, 2014. doi:10.1136/bjsports-2014-093512

692 Schneider, A. J. (2006). Cultural nuances: doping, cycling and the tour de France. *Sport in*
693 *Society*, 9(2), 212-226. doi: 10.1080/17430430500491272

694 Smith, C. (2015). Tour du dopage: Confessions of doping professional cyclists in a modern
695 work environment. *International Review for the Sociology of Sport*, published online first
696 on March 2, 2015. doi: 10.1177/1012690215572855

697 Spichtig, M., & Traxler, C. (2007). *Social norms and the evolution of conditional*
698 *cooperation*. Munich: Department of economics, University of Munich.

699 Stokvis, R. (2003). *Moral entrepreneurship and doping cultures in sport*. Amsterdam:
700 Amsterdam School for Social science Research.

701 Trabal, P., Buisine, S., Brissonneau, C., & Defrance, J. (2006). *Dopage et temporalités*.
702 Rapport du contrat de recherche Mildt-Inserm O1. Université Paris X Nanterre. Paris.

703 WADA (2009). *World Anti-Doping Code 2009*. Montreal, QC: World Anti-Doping Agency.

704 WADA (2013). *Athlete biological passport: operating guidelines & compilation of required*
705 *elements*. Montreal, QC: World Anti-Doping Agency.

706 WADA (2015). *World Anti-Doping Code 2015*. Montreal, QC: World Anti-Doping Agency.

707 Waddington, I. (2000). *Sport, health and drugs. A sociological perspective*. London: E. &
708 F.N. Spon.

709 Waddington, I. (2005). Le dopage sportif: la responsabilité des praticiens médicaux. *Revue*
710 *STAPS*, 70(4), 9-23. doi: 10.3917/sta.070.0009

711 Wagner, U. (2010). The international cycling union under siege- Anti-doping and the
712 biological passport as a mission impossible? *European Sport Management Quaterly*, 10(3),
713 321-342. doi: 10.1080/16184741003770206

714 Zelli, A., Mallia, L., & Lucidi, F. (2010). The contribution of interpersonal appraisals to a
715 social-cognitive analysis of adolescents' doping use. *Psychology of Sport and Exercise*,
716 11(4), 304-311. doi: 10.1016/j.psychsport.2010.02.008

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