

The Winner Takes All

A Qualitative Study of Cooperation on Cycling Teams

Katrine O. Netland

<katrine.netland@gmail.com>

Vidar Schei

<vidar.schei@nhh.no>

Therese E. Sverdrup

<therese.sverdrup@nhh.no>

Department of Strategy and Management,
NHH Norwegian School of Economics

Abstract

Cycling is arguably one of the most physically demanding sports. However, road cycling athletes are also challenged by a social-psychological tension induced by a fairly simple dilemma: There will only be one individual winner, but no one can win unless teammates sacrifice their own chances to win. This article addresses ways to effectively handle this challenge. We conducted in-depth interviews with athletes from professional and continental road cycling teams, as well as team sports directors. Our findings indicate that a prime undertaking indeed is to deal with the trade-off between individual goals and team goals. We identify three principles that may help to improve cooperation: involvement, cohesion, and the psychological contract. These principles seem to facilitate cooperation and a collective orientation, and they seem to be positively related to performance and satisfaction. We discuss these findings and their implications for cycling teams in particular, as well as for teams and team management in general.

Key words: social dilemma, road racing, governing mechanisms, cooperation, involvement, cohesion, psychological contract

Cycling is very special. It's really an individual sport that involves teamwork ... It is even more special to work as a team than, for example, soccer, which is a team sport in which everyone wins. In cycling, the team cooperates, but only one wins, which makes this more intense.

Professional cyclist (respondent)

I. Introduction

Cycling is an extremely demanding sport. The toughest competitions, such as the Tour de France, last three weeks and have daily competition times lasting five to six hours. However, road cycling is not only extreme with regard to its physical demands; it also requires a significant amount of cooperation because no individual cyclist can win without a well-functioning team. This creates a social-psychological dilemma: In a given race, there is always only one individual winner, but no rider can win without being part of a team in which some members sacrifice their own individual chances for the good of the team. How do you get team members to collaborate and perform their best when the individual winner gets all the credit?

Unfortunately, we have limited knowledge on how to best develop collaboration and team effectiveness in such situations. Certainly, recent research has addressed cooperation and performance in team sports, e.g., showing how successful football teams are characterized by a balance of cohesion, cooperation, and competition (Wegner & Mohr, 2010) and how cohesion may enhance performance for basketball teams (Warner, Bowers, & Dixon, 2012). Several studies have also touched upon the challenges of cooperation in cycling teams, taking either a sociological (e.g., Albert, 1991), physiological (e.g., Mujika & Padilla, 2001), or mathematical (e.g., Hoenigman, Bradley, & Lim, 2011) approach. However, few researchers have examined the tension between individual and collective goals for road cycling teams from a social-psychological perspective, yet this tension is at the core of both cycling and many social-psychological theories.

Therefore, the purpose of this article is to shed light on the individual-collective tension in road cycling and to propose effective ways to address this issue. Through in-depth interviews with cyclists and sports directors, we have investigated how such challenges are perceived and

how they can best be handled. Analyses indicate that road cycling is an “individual team sport” in which individual interests are often at odds with the team’s interests. However, there are ways to deal with this dilemma. In particular, our data point to the importance of social control mechanisms, and three principles seem essential for effective teamwork and high performance: *involvement* (to create ownership), *cohesion* (to promote motivation), and *the psychological contract* (to fulfill perceived expectations and obligations).

2. Cooperation on Cycling Teams

2.1. *The Dilemma*

As noted, cooperation can be difficult in cycling. Consider, for example, the following situation: In 2011, professional road cyclist Gabriel Rasch was in a good position at the end of the highly prestigious one-day race, the Paris-Roubaix, but was told by the sports directors of the team to wait for team captain Thor Hushovd and help him. Rasch afterwards said:

If I hadn’t been told to wait (...) I would have probably achieved a top-10 or top-5 position. Then, with my new employer, who would have been settled a long time ago, I could have earned twice as much, and with the World Tour points, Norway would have had an extra place at the Olympics in London. (...) It is easy to see that after the event, but perhaps I would have taken the plug out of my ear if the same thing had happened again. I gained absolutely nothing by complying with the request (Fredagsvik, 2011).

This example shows that there can be major discrepancies between the best interests of cyclists and those of their teams. Ignoring his team’s tactics and his team manager may have had consequences for Rasch in terms of not being chosen for the next race or potentially not having his contract renewed. Even so, Rasch says that he did not gain anything by complying. Waiting for Hushovd may have slightly increased the team’s overall chances of winning, but that came at the expense of Rasch’s individual opportunity to win.

Rasch’s challenge is reminiscent of a social dilemma (e.g., Hardin, 1968), which is defined as a situation in which there is tension between rationality at the individual level (what is best for yourself) and at the

collective level (what is best for the team). However, compared to a classic social dilemma situation in which it is possible for everyone to achieve something by working together, there is no such solution in cycling. In cycling, individuals win rather than a team, thereby creating many individual “losers,” even though the winner may be on their team. Nevertheless, we may draw on the theory of social dilemmas when addressing cycling teams, because the central element – the tension between the individual and the collective – is present both in social dilemmas and in cycling.

Research shows that a key factor in explaining one’s degree of cooperation in social dilemma situations is a person’s social-values orientation (Messick & McClintock, 1968). A distinction is usually made between two classes of orientation: pro-selfs and pro-socials. Simply stated, pro-selfs are concerned with reaching their own objectives, while pro-socials are also concerned with achieving the group’s goals. Studies indicate that slightly more than half of us can be classified as pro-socials, while the remainder are pro-selfs (Brett, 2007; Murphy, Ackermann, & Handgraaf, 2011; Schei & Rognes, 2007). Not surprisingly, individuals with a pro-social orientation are far more likely to cooperate in social dilemma situations than pro-self individuals (Balliet, Parks, & Joireman, 2009). Similarly, research on groups indicates that differences in the “individualism-collectivism” dimension (Wagner & Moch, 1986) can explain people’s level of cooperation in team situations (DeMatteo, Eby, & Sundstrom, 1998; Eby & Dobbins, 1997; Wagner, 1995).

However, it is important to note that even though social-value orientation influences one’s degree of cooperation, there are also a number of situational factors that influence individual choices. A few key factors that are particularly interesting in relation to cycling are direct instructions from management (e.g., Schei, Rognes, & Shapiro, 2011), how the team members are rewarded (e.g., Komorita & Barth, 1985), and social norms (e.g., Biel & Thoegersen, 2007). These conditions reflect the three general governing mechanisms that we will examine in the next section.

2.2. *Governing Mechanisms*

To understand how cyclists cooperate, we draw on three central mechanisms from the management literature: authoritarian, reward, and social mechanisms. *Authoritarian mechanisms* refer to the direct management of efforts, such as instructions and formal rules and procedures that may

include a regulatory framework for how tasks are carried out. Managers influence their employees' behavior through authoritarian leadership. The situation depicted above, in which Gabriel Rasch was instructed by the sports director to wait for his team captain, is a typical example of authoritarian control.

Reward mechanisms are based on output, i.e., the results produced. It is up to employees to adjust their own behavior if they want to be rewarded. Employers offer a reward, and each individual then decides whether they want to work toward it or not. However, team rewards can work in both directions. For example, a team-based bonus can allow certain team members to underperform but still be rewarded when other members of their team take responsibility. Despite several studies looking at team rewards, it is still unclear under what conditions they are effective (DeMatteo et al., 1998).

Social mechanisms refer to the control of behavior through social norms. Social norms are shared expectations of how one should behave in a group (Levine & Moreland, 1998). Everyone who belongs to a specific group is expected to follow the group norms; otherwise, they can be subjected to sanctions by the group (Hackman, 1986). Hackman (2002) argues that a team leader's first task should be to help the team establish a set of basic norms that encourage members to behave in ways that contribute to team effectiveness (cf. Mathieu & Rapp, 2009; Mofoss, Nederberg, Schei, & Sverdrup, 2012). One such general norm that governs various relationships is the *norm of reciprocity* (Gouldner, 1960), according to which people return benefit for benefit and respond to harm with either indifference or hostility.

When parties in a relationship engage in a social exchange (Blau, 1964) in which they reciprocate, they develop a set of obligations and expectations about future exchanges. These anticipated obligations and exchanges are referred to as a *psychological contract* (Rousseau, 1989; 2011). The concept of a psychological contract has received increased attention over the last decade in attempts to explain employees' reactions to breaches and fulfillment of psychological contracts. Study results show that breaches in particular influence employees' attitudes, behaviors, and emotions (Zhao, Wayne, Glibowski, & Bravo, 2007). We believe that social mechanisms embedded in the development of a psychological contract may be important to cycling teams; these mechanisms operate as both input and output, meaning that they both "direct" how the cyclists should behave and they "reward" cyclists that adapt to the group norms.

This dual function of social mechanisms is likely to be essential in complex and challenging situations such as cycling.

In summary, road cycling teams are likely to experience challenges in relation to cooperation. We have limited knowledge of how situations requiring cooperation in cycling events are perceived and handled. Next, we describe how we went about achieving insight into these situations, and we present our analysis and interpretation of cycling teams' challenges in cooperating effectively.

3. Method

Context

A cycling team typically consists of up to nine members in the most challenging competitions. Teams are often organized with one or two captains and several team members ("domestiques"). Cyclists who follow closely behind other cyclists during a race use 30-40% less energy than those in front because their wind resistance is significantly reduced (Hoenigman et al., 2011). Team members typically have different tasks, many of which are intended to help the captain obtain the best possible results. During a race, sports directors drive in cars behind the field of cyclists. In most professional races, cyclists are equipped with communication devices, allowing sports directors to communicate directly with the cyclists. Cyclists can also communicate with their sports director and other cyclists on their team, although on the continental level (the second-highest level), cyclists do not have communication radios.

Design

In order to gain insight into the collaborative challenges of cycling teams, we started with a case study. Such studies are suitable when the goal is to obtain answers about what, why, and how certain phenomena manifest themselves (Saunders, Lewis, & Thornhill, 2009). We first focused on one cycling team. To determine whether these findings also applied to other cases, we extended the study – as recommended by Yin (2011) – to include respondents from other teams. When using case studies, Saunders et al. (2009) argued that it may be valuable to use triangulation. Hence, in addition to "formal" in-depth interviews with cyclists and sports directors, we also had many informal conversations with partici-

pants in the cycling industry. Moreover, to familiarize ourselves with the context, we used other sources, such as books and media that report on cycling, presentations by sports directors, and our firsthand observations at road cycling competitions.

Respondents

We conducted in-depth interviews with a total of nine respondents (six cyclists and three sports directors), starting with three cyclists and two sports directors from one of the best Norwegian continental teams. We then expanded the sample by interviewing a sports director from another continental team and three world-class riders from different professional teams, deliberately selecting riders who have different roles on their teams. Additionally, many of the riders had been members of more than one team during their career and talked about their experiences over the years and across teams. All respondents were men, and the sample was based on what Saunders et al. (2009) termed utility value. Using a snowball method to select respondents, we chose those most likely to have information essential to our research questions (Saunders et al., 2009). We continuously received new and relevant information during the first interviews, but by the last interviews we did not encounter any new themes or information. Thus, we concluded that we had reached a satisfactory level of theoretical saturation (Saunders et al., 2009).

Interviews

We used semi-structured interviews in our study. Semi-structured interviews are those in which the interviewer has a list of topics or general questions prepared, but the participants can talk freely about those topics. The advantage of this method is that it can lead to information on matters that the researchers have not thought of, but which can be crucial to the research question (Saunders et al., 2009). We developed a comprehensive interview guide based on relevant theories that relate to team members working together, such as motivation, cohesion, communication, leadership, norms, goals, rivalry, and team building. However, our goal was to gain a more in-depth understanding of the tension between individualism and collectivism, which meant that the interview guide served as an initial guide that evolved during the interviews as we became aware of themes raised by respondents that were important to address. Hence, we used a combination of deductive and inductive ap-

proaches, as recommended by Miles and Huberman (1994) when prior theory can have a pivotal function in the design of a research project (see also Parkhe, 1993). The interviews were conducted face-to-face with the exception of one, which was conducted by telephone for practical reasons. The interviews lasted from 45 to 90 minutes, with an average length of just over one hour, and all interviews were recorded and printed in full for further analysis. Shortly after each interview, we also recorded our overall impressions.

Analysis

We started with a theme-centered analysis, which is used to compare information from all of the respondents in a particular study to help gain a deeper understanding of a particular issue or event (Thagaard, 1998). The data were first coded by going through each interview and identifying statements that we found relevant for understanding how the tension between individual and collective goals was perceived, or for understanding how the various parties handled situations requiring collaboration. Since the interview guide was both based on theory and developed through the interviews, it allowed us to inductively and deductively analyze the data. We then labeled the various categories and organized the content from the respondents into the most relevant categories (Saunders et al., 2009; Thagaard, 1998). After going through the interviews numerous times, we ended up with 128 categories. We then merged some categories into more general categories, which we analyzed further. To help minimize the risk of analyzing text fragments isolated from their original context (Thagaard, 1998), we continuously referred to the interviews and our overall impression notes.

4. Results

We will present our results by using a “show-and-tell” technique (Golden-Biddle & Locke, 1997), showing the data (the respondents’ statements) and discussing the meaning of these statements (how we interpreted the data). Quotes from respondents are labeled with a C for continental riders, a P for professional riders, and SD for sports directors. We will first look at how respondents experience cooperation challenges on their cycling teams and when these challenges are most likely to arise. Then, we will focus on how these challenges are handled.

4.1. Cooperation Challenges on Cycling Teams

Respondents clearly perceived road cycling to be an extreme case of “individual team sport.” All respondents acknowledged the inherent tension between individualism and collectivism in cycling. At the same time, they emphasized that to achieve success, you must learn to cooperate. It is almost impossible to succeed without a well-functioning team; the importance of getting the team to work together to achieve a common goal was highlighted by many as the most critical element in the sport:

Cycling is a team sport where everyone on the team has a different assignment. In order to win, each one of us is totally dependent on having a team that works together (C).

[The biggest challenge] is to get the team to agree to work toward the same goal, and to make sure that everyone on the team understands the goal and the consequences of the goal (SD).

Therefore, although there is no doubt that the sport’s uniqueness makes collaboration very challenging, cooperation appears to be of vital importance in cycling. Tension between the need to work as a team and desire to do well for oneself is definitely present and exacerbated by the fact that the winner receives a great deal of attention. It is “the winner takes all”:

If you are number two, you have actually lost because the winner gets much more attention (P).

In articles that summarize cycling results for the year, the media often question why “he” is on such a good team; he has no results, etc. That’s quite painful if you know yourself that your effort has had great significance for the team; you deserve a lot of credit for the results others have achieved (C).

Challenges in relation to cooperation are more strongly expressed when there are conflicting personalities, when there is more than one team member who can win the same race, and when several cyclists on a team refrain from performing their best so that others on the team can succeed. The first situation, in which there are conflicting personalities or several stars on the same team, can be critical. Most seem to accept that they sometimes have to sacrifice their own chances so that others on the team can have a better chance at winning. However, participants in our study admitted that it might be painful to sacrifice individual chances for those who had the ability to win themselves:

The problem on a team occurs when two very good riders have two completely different personalities and have to cooperate (SD).

When we have three riders who have the opportunity to win, two of them have to give up their chance for a victory to help another member of their team. Then, they have to work together. This is where the challenge comes in; the riders actually have to get someone to give up the opportunity to win and ride for someone else's benefit (SD).

One of the sports directors illustrated that the situation of having more than one potential winner on the same team may directly affect cooperation and performance. He spoke of a particularly important race:

The race is an important race for us. We've won it before, and now the intention is that [these two] should win. The two years they were supposed to win, our team didn't win. (...) We did not win because the two failed to cooperate (SD).

Several respondents also emphasized that a team needs individuals who can work together. That is, teams seem to be totally dependent on having a sufficient number of pro-social riders, individuals who are willing to sacrifice themselves for the team. Furthermore, teams need to work hard to get pro-selfs and pro-socials to work together constructively:

There are some individuals who think it is better to sacrifice themselves for the team than to ride for their own personal success. Teams are entirely dependent on such persons: riders who view helping behavior as a natural task. In contrast, you have those who think a little more ego-tistically (...) who have more difficulty helping others. The important thing is a good team dynamic – to get these people to work together (C).

The second situation in which cooperation is particularly challenging is when certain riders do not do their best to help others. For example, one respondent said that it can be quite frustrating when a teammate is not riding for the team, even after the team has agreed on this in advance:

You are told before the race that everybody else will create a break, and you know that there is someone sitting in the back of the field who doesn't give a damn. (...) It becomes irritating when this happens several times. If their legs aren't good enough (...) that's okay. But when you know that someone is an extremely good rider and he doesn't bother trying, that is frustrating (P).

Such episodes can cause serious and long-term problems for team cooperation. It can even get to the point where certain riders end up feeling that other teammates will not help them when needed:

It's like I said. I'm not going to sacrifice myself for him again. I refuse. It will never happen. If I'm on the same team with him next year (...) and he gets in a good position, I will say that I have a sore knee or something. That's the way you do it (C).

Cooperation problems may therefore have direct consequences on how a team performs. The question is how to deal with these challenges, which we will look into in the next section.

4.2. *Handling Cooperation Challenges on Cycling Teams*

Respondents point to a number of ways in which cooperation challenges can be handled. Both authoritarian mechanisms (e.g., direct instructions from sports directors) and reward mechanisms (e.g., sharing bonuses equally among team members) are used to facilitate cooperation. However, the approaches that seem most successful are based largely on social mechanisms and can be summarized in the following three principles: (1) *involving* the athletes to create joint ownership of decisions, (2) developing *cohesion* to create motivation for contributing to the team, and (3) establishing a *psychological contract* to fulfill obligations and expectations between team members. We discuss these three principles next.

(1) Involvement

Most respondents underscored that strict authoritarian control is not recommended, and neither sports directors nor riders perceived this mechanism as dominant. One of the riders said that on his team, they practiced freedom with responsibility:

I think it is very explicit from the management that we will not have a strict East German culture. (...) You practice a lot more freedom with responsibility. As long as you get on the bike at the scheduled time the next day for training, you are allowed to do what you want the night before (C).

Statements from sports directors also supported this. For example, one team manager said that strategy and tactics are often discussed with rid-

ers before the race. Additionally, he pointed out that involving riders is essential for making the best decisions:

Then, the best member of the team might say, “I’m not feeling fit today. I think we actually have to run for someone else.” Then, we change the tactics a little. To succeed in getting the team members to work together, it’s important to come up with such proposals and encourage the riders to be honest. Sports directors dictating the tactic rarely leads to good results (SD).

One of the professional riders supported this and argued that there are negative consequences when management does not listen to what riders have to say. He believes that it is important for riders to become involved, and he talked about another cycling team he’s very familiar with:

The team has not worked well together, and I think that’s because the sports director has been too top-down in his approach: “We pay your wages, so you have to listen to what I say” (P).

There seems to be agreement among sports directors and riders that managers should not be dictatorial and should ensure that riders are involved in shaping the rules, vision, and goals, which in turn produces ownership of and accountability for decisions. Normally, teams use training camps in the fall to discuss ground rules for the team:

At training camp in November, I facilitated a process that focused on vision and goals. This is important. The boys helped in the process (...). Team members must be involved in shaping vision and goals (SD).

Last year we had a meeting where we discussed collaboration within the team. We will do the same this year. We agree on ground rules for the team, and we use these rules throughout the season and remind ourselves of them (C).

One of the riders said that when he joined a newly established team, the riders themselves were responsible for formulating the team’s rules. He was very pleased with the way this was done:

When the team was established, we sat down in a group, and we, the riders, decided what rules we should have. This was an extremely good way of doing it, as we made the rules and the guidelines (P).

Another reason to involve riders in the decision-making process is that in cycling it can be difficult to control what happens and how team members feel. Because of this, riders often have to find solutions “on their wheels.” It is important that they can make sensible decisions on their own, using information they have about a particular situation, rather than having a sports director telling them what to do:

We often have meetings before the race. The sports director is not dictatorial. He offers suggestions on what he prefers, and then we talk about what we want and assign roles. It is very difficult to control a cycling race, so you have to take things as they come (C).

In sum, both riders and sports directors praise the value of involvement. Of course, the sports directors must have the final word in certain situations, but cooperation seems more likely when all parties have participated in the process than when it is imposed by authoritative instructions.

(2) Cohesion

A second point that is critical in order to achieve cooperation on a cycling team is developing a sense of cohesion. The following quotes show that this was emphasized by both sports directors and riders in our study:

If the group does not get along outside of the race, this will be reflected during the race (SD).

There are many individualists in cycling, so collaboration is a challenge. But in the teams that I have been part of in recent years, it has worked well because of the way we have worked and the way we have built the team. You must be good at choosing riders who are willing to work for the team and sacrifice their own chances for the team. You create this through good companionship (P).

Cohesion was also highlighted as particularly important to help keep team members fully motivated and willing to sacrifice for each other. With good group cohesion, it may be easier to get everyone to work together toward the same goal. Cohesion is especially important because the winner gets all the attention, while other team members' contributions are less visible. One continental rider put this quite figuratively:

You are going to die for another member of the team, and there will be nothing about it in the newspapers or on the Internet afterwards. To do

this, you must have a good relationship with everyone on the team and be a cohesive group (C).

Although cyclists in our study do not necessarily have to like each other to work together, respondents agreed that it is much easier to provide that little bit extra when you have a good relationship with your teammates:

Cohesion on a team is everything. If you have a good relationship with everyone on the team, it is easier to help a friend than a colleague (C).

If you have a star that you think is an asshole on the team, then it goes without saying that you will not bother to give one hundred percent. Although, perhaps you will, but you won't give that little bit extra (P).

By asking respondents whether they believed that cohesion affects results, we concluded that they believe cohesion is essential to optimal performance:

Yes, I think so. This applies in almost any sport (...) but in cycling it is even more important, because when we start a race, *we're* gonna win it. It's not that I know we're gonna win, and there may be conflicts, of course; therefore it is important that we know each other well and have a good relationship (C).

Cohesion is also pointed out as an important prerequisite for dealing with critical incidents in a timely manner. For example, one rider expressed how teams with good team spirit are much better equipped to deal with conflicts:

On a team, there are different personalities, and therefore, there will be conflicts. That's impossible to avoid, but it can be used for something positive. If you have a strong sense of cohesion as a foundation (...) you will be able to solve the conflicts, but without cohesion it might go wrong (C).

Finally, given the potential positive value of cohesion that the respondents expressed, we recognize that teams sometimes use various activities to strengthen group cohesion. Riders seem to appreciate these activities, which can consist of both general team-building activities (e.g., playing paintball) and more specific activities (e.g., tests of personality):

We had a lot of meetings where we talked about communication, and then we had a person who came and told us about a personality-type index. We answered a lot of questions in advance, identifying aspects of our personality (...). The aim of this was to improve our communication with each other – to understand why each of us says what he says and acts like he does, etc. (C).

In short, our data indicate that the riders value cohesion. Building a strong sense of cohesion seems to lay the foundation for a collective orientation, which make cooperation more likely even during the dilemmas that arise in road cycling.

(3) Psychological contract

A third factor that appears to be central to handling cooperation on a cycling team is the psychological contract. The psychological contract concerns implicit obligations and expectations that arise among parties in a relationship. For example, all respondents feel a sense of responsibility towards their teammates:

If a teammate is in a good position and says that he feels like going for it (...), then I feel obligated to give it my all so that he can succeed (C).

Thus, riders feel an obligation to others on their team. More importantly, however, they also say that it is essential that there is a mutual sense of obligation among all team members, which is at the core of the psychological contract. The psychological contract seems to be essential for getting riders to make sacrifices for each other:

I feel that it is a shared understanding that if a team member is in a good position to win, then the others must help him (C).

I've had many chances – or some chances – to ride for my own success, and that's because I've been loyal to the team. And sometimes, when I'm in a position to succeed, they will let me go for that success (P).

However, the ultimate challenge appears to be when riders feel that their expectations are not met, which can be referred to as a breach of the psychological contract. In other words, if they do not perceive the psychological contract as being fulfilled, it can create major problems in terms of cooperation and trust:

It is perhaps one of the biggest problems in cycling with regard to cohesion: to receive a service once and not give it back (C).

If you know that a rider is loyal, you give everything; you know that when the situation is reversed, this rider will help you. I have no problem making sacrifices one day because I know that he will make sacrifices for me another day. But it becomes half-hearted if it is a rider that you know, and others talk about, who is not loyal (C).

It is also clear that riders think they get many opportunities to meet the expectations of and obligations to each other and to fulfill their psychological contract:

You get many chances during the season to prove what you stand for and how you view the team versus your own goals. There are plenty of chances to prove that you're a loyal rider (C).

In sum, the data clearly suggest that a breached psychological contract creates problems for a cycling team. Conversely, if team members are able to fulfill the psychological contract, it may have a positive impact on performance:

I give it all now, plus that little extra, then I know that the day it's my turn, I'll get it all back, plus a little extra. If this works well, it creates unbelievable strength – creating success – creating results (C).

5. Discussion

The purpose of this study was to examine challenges related to cooperation on cycling teams and how to handle them. We found that cycling teams face challenges in relation to the tension between individual and collective goals. The dilemma is that it is nearly impossible to achieve success without some team members having to sacrifice their own chances of winning. There are at least three factors that may help riders deal with this dilemma: involvement, cohesion, and the psychological contract, all of which seem to be positively associated with cooperation and performance. Interestingly, the three factors also seem to reinforce each other.

For examples of the reinforcing effect among involvement, cohesion, and the psychological contract, let us start with involvement: When sports directors allow riders to be involved in developing goals and basic

rules, riders increase their level of ownership of the rules and goals they have agreed on. Hence, it is easier to stick to the rules, and the team is more likely to correct anyone who does not adhere to them, thereby helping to increase cohesion, since there are commonalities that bind participants together. Such involvement also clarifies team members' expectations of each other and how the members are expected to work together as a team, thus illuminating the psychological contract. In sum, involvement makes it easier to strengthen cohesion, as well as awareness and fulfillment of the psychological contract. Involvement, cohesion, and the psychological contract also operate to some degree at different levels. Involvement typically deals with conditions that the sports directors can facilitate; the psychological contract often deals with dyadic relationships (i.e., riders feel obligated to each other on an individual basis); and social cohesion deals with issues related to the group as a whole. As such, these three elements provide various parties with different opportunities to ensure a high level of meaningful cooperation.

Earlier, we described a situation in which professional cyclist Gabriel Rasch experienced the dilemmas inherent in cycling as a sport. After applying the findings of our research, how could situations like Rasch's be handled? We believe that first – before the race – the sports director would have to ensure that the riders of that particular team had built a psychological contract in which they agreed that every rider would give all for every other rider, and also that each could trust his teammates when he had the possibility of winning. Furthermore, the sports director would have to build a cohesive team through involvement and previous interactions among team members. Then, this cohesion and psychological contract would allow riders to be more involved during races. Turning to the situation with Rasch, prior to race the cyclists on his team had all agreed to help the team captain Tor Hushovd to win. However, circumstances often change due to the riders' feeling fit or not, or as a result of issues that arise during a race (e.g., punctuation). If the riders had been allowed to be more involved, Rasch could have said: "My legs are so good today that I think I have a good chance of coming in first," instead of being told to back off. Hushovd could trust that Rasch had made this decision in consideration of what is best for the whole team rather than just for himself, because the psychological contract would assure him that he could trust Rasch's decision. This example illustrates how cohesion, involvement, and the psychological contract can contribute to improving cooperation on a cycling team.

5.1. Implications

The results of this study have theoretical implications for future research on teams and team leadership. First, this study indicates that groups with tension between the individual and the collective seem to best regulate this dilemma through social control mechanisms. An established culture in which participants become involved and build a strong sense of cohesion directs participants' efforts toward a collective goal. Highly cohesive teams develop a collective understanding of situations in which members agree on how challenges will be resolved because the way to behave is taken for granted. They do not need to have many specific rules, but rather a general understanding and acceptance of the main goals, standards, and guidelines. In general, teams who face "social dilemma" challenges seem to be more resilient when they have a strong sense of cohesion.

Second, this study indicates that a psychological contract detailing obligations and their mutual fulfillment is a key element for achieving optimal cooperation. However, the literature on psychological contracts focuses almost exclusively on vertical relationships, i.e., those between employer and employee (e.g., Marks, 2001). Data in our study indicate that these psychological contracts can also operate horizontally, among members of a team (cf. Sverdrup, Brochs-Haukedal, & Grønhaug, 2010). Therefore, it may be interesting to take a psychological contract perspective to gain a better understanding of how a team's dynamics evolve. It would also be interesting to examine how breaches in these contracts can be prevented and managed by focusing on the two other factors discussed (involvement and cohesion).

Our findings also have practical implications. Effective cooperation can be achieved by establishing a team contract (Mathieu & Rapp, 2009; Norton & Sussman, 2009). Such a contract need not be formalized on paper, but it is intended to help the group agree on topics like how they will work together, make decisions, provide feedback to each other, and achieve goals. For example, members can explicitly discuss what a psychological contract should contain regarding obligations to and expectations of one another. Discussing these matters generates involvement, ownership, and a better understanding of mutual obligations. In addition, it establishes a good foundation for strong cohesion.

Nonetheless, the results and implications of this study must be interpreted with caution. The study should be followed up by further research that can expand the understanding of our research questions. For example, we suggest future studies using observations over time to

identify phenomena, such as norms and cohesion, that are difficult to capture through interviews, and to explore how they are related to cooperation and achievement. Furthermore, there is also the question of whether our findings can be generalized to other cycling teams, to teams in other sports, and to business teams. We believe that the findings may have relevance for other teams that have the same fundamental tension between the individual and the collective. Moreover, previous research indicates that there are many similarities between success in sports and business (Jones, 2002; Weinberg & McDermott, 2002). Barker, Rossi, and Püshe (2010) also demonstrate how researchers in sports psychology and organizational psychology can benefit from learning from each other. Finally, Frey and Eitzen (1991) argue that the issue of sports is an arena well-suited for studying group dynamics.

5.2. Conclusion

This article provides insight into how cycling teams can meet cooperation challenges. In particular, we argue for the importance of focusing on social control mechanisms, since the structural tension between the individual and the collective cannot be easily solved by authoritarian or reward mechanisms. Social control mechanisms seem to motivate cyclists to give the necessary extra measure for one's teammates. Such mechanisms are also easier to adapt to different situations that arise in cycling races because they are more flexible and based on a common intention and goal. Based on our data, we propose that cooperation may be facilitated, drawing upon three principles: involvement, cohesion, and the psychological contract. These principles seem to influence and reinforce each other, and they can be developed through specific activities (e.g., the formulation of a team contract). Clearly, building a cooperative team requires deliberate and systematic efforts over time, but if successful, it is definitely worth the effort.

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