To improve or to compete

Implicit theories of ability and parental behavior as determinants of achievement goals in sport

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Chapter 1

General Introduction

Many nations want their athletes to perform well in international competition. If elite athletes are viewed as the tip of a pyramid, then this pyramid can grow higher when the base is wider. The more people enjoy sports and do not drop out, the more likely it is that some of them will reach the international top. To create this broad base, it is important that young athletes are motivated to perform to the best of their abilities. Motivation can be defined as the direction and intensity of behavior (Sage, 1977). Direction refers to the goals people pursue, and intensity refers to the amount of energy they invest in that pursuit (Thrash & Elliot, 2001). This dissertation focuses on specific sources of motivation in sport such as achievement goals, implicit beliefs of ability, and the role of parents.

Achievement goals

The theory about achievement goals evolved from theory about achievement motives, which was initiated by Murray (1938) and continued by McClelland and colleagues (e.g., McClelland, Atkinson, Clark, & Lowell, 1953). These scholars believed that motivated behavior is driven by basic needs such as the need for achievement, that is, the need to accomplish something difficult (see Thrash & Elliot, 2001, p. 5 for the full definition of the need for achievement). At first, needs were viewed as subconscious desires with a strong affective component, but over time this idea changed into a view of needs as conscious motives, that people can reflect on, and translate into situational goals and behavior (Thrash & Elliot, 2001).

In McClelland's theoretical framework on achievement motives, achievement goals are concrete expressions of conscious achievement motives (i.e., needs). Thus, achievement motives are goals at a higher level of abstraction whereas achievement goals are more specific. The idea of a hierarchy of goals, constructed from higher-level abstract goals to lower-level concrete goals has also been put forward by other authors (e.g., Cropanzano, James & Citera, 1993; DeShon & Gillespie, 2005). All these authors regard it important to know the abstract goals that are driving people as well as how people translate their abstract goals into concrete goals and contingent behaviors.

For example, the abstract need for achievement may translate into the more concrete goal of feeling competent. On a next level, the goal to feel competent may translate into the goal to perform better than others, or into the goal to master certain skills. The goal to perform better than others may translate into behavioral goals with short and long term time frames, and different levels of

specificity. An example of a short term goal is to win an upcoming game of tennis, and an example of a long term goal is to become a national tennis champion.

Several motivational theories propose a set of universal needs (i.e., goals at the highest level of abstraction). For example, Ryan and Deci (2000) consider the needs for competence, autonomy and relatedness to be universal. DeShon and Gillespie (2005) consider the needs for agency, affiliation, and esteem to be universal. Agency refers to "the perception that [people] can affect or control important aspects of their environment" (p. 1108), which is also a core component of competence. Hence, seminal motivation theories consider competence to be an innate need or goal. When a setting poses (physical or mental) demands, such as in school or sports, and people attain specific achievement goals, they will feel competent, and thus feel better about themselves.

Elliot (2005) states that the essence of achievement goals is that they *define* competence, and therefore allow people to assess their competence. Achievement and competence may refer to performing better than others, demonstrating one's skill to others, or attaining a certain standard of performance (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010). The contemporary literature on achievement goals distinguishes four types of goals, based on two underlying dimensions (Elliot & McGregor, 2001). The first dimension distinguishes between mastery and performance goals. Mastery goals reflect the desire to learn and improve and develop one's potential, whereas performance goals reflect the desire to outperform others and demonstrate ability (Senko, Hulleman, & Harackiewicz, 2011). The second dimension distinguishes between approach and avoidance goals. Approach goals concern the wish to attain positive outcomes while avoidance goals concern the wish to avoid negative outcomes. Combining these two dimensions creates four categories of achievement goals, labeled performance-approach goals, performance-avoidance goals, mastery-approach goals and mastery-avoidance goals (Elliott & McGregor, 2001). A performance-approach goal is the desire to outperform others, a performance-avoidance goal is the desire to avoid doing worse than others, a mastery-approach goal is the desire to learn something or to develop oneself, and a mastery-avoidance goal is the desire not to miss opportunities to learn or improve.

In sport, achievement goals are associated with performance, rate of learning, athletic injuries, and psychological well-being (Adie, Duda, & Ntoumanis, 2008; Shen, Chen, & Guan, 2007; Steffen, Pensgaard & Bahr, 2009; Van Yperen, Blaga & Postmes, 2014). Specifically, mastery-approach goals and performance-approach goals relate to improved performance (Lochbaum &

Gottardy, 2015; Van Yperen et al., 2014). However, performance-approach goals, as well as performance-avoidance and mastery-avoidance goals, also relate to performance-impairing phenomena, such as anxiety, cheating, doping use, and self-handicapping (Conroy & Elliot, 2004; Elliot, Cury, Fryer, & Huguet, 2006; Ring & Kavussanu, 2018a, 2018b). In contrast, mastery-approach goals relate to performance-enhancing constructs such as enjoyment and intrinsic motivation (Fox, Goudas, Biddle, Duda, & Armstrong, 1994; Wang, Liu, Lochbaum, & Stevenson, 2009).

Because different achievement goals are related differently to outcomes such as performance, learning, affect, and well-being, it is highly relevant to know why people pursue one type of goal or the other. Therefore, a central aim of this dissertation is to investigate the determinants of achievement goals. Two presumed determinants will be studied in more detail: (1) implicit theories of ability, and (2) the role of parents.

Implicit theories of ability

Early theories (Dweck, 1999; Dweck & Leggett, 1988) identified implicit theories of ability as important determinants of achievement goals. Implicit theories of ability are beliefs people have about the malleability of human attributes. In sport, some athletes believe their sport ability is innate and can hardly be developed (*entity view*), while others believe that sport ability can be changed substantially through training and practice (*incremental view;* Biddle, Wang, Chatzisarantis, & Spray, 2003).

As applied to the sport context, Dweck's (1999) theory suggests that an entity view leads to performance goals because people who believe their sport ability is innate and fixed, will want to assess it by comparing themselves to others. They believe winning likely indicates they have more ability for sport than their opponent. After failure, people with an entity view are prone to display a *helpless* response pattern (negative affect, attributions to lack of ability, and task avoidance), because they believe their lack of sport ability is fixed and uncontrollable (Dweck & Leggett, 1988). Dweck's (1999) theory further predicts that an incremental view leads to mastery goals, because people who believe that sport ability can be developed will focus on personal growth and learning. To them, the purpose of sport is to improve their level of ability and they opt for training and practice as ways to reach higher levels of mastery. After failure, they show a *mastery* response pattern (searching for feedback, making attributions about insufficient effort, no change in affect, and motivation to practice; Dweck & Leggett, 1988).

Empirical support for implicit theories of ability

Implicit theories have been studied mostly in school settings (i.e., 68% of the studies; Burnette, O'Boyle, VanEpps, Pollack & Finkel, 2013). There are relatively little studies on implicit theories in the athletic domain and these studies have led to equivocal outcomes that warrant further theorizing and research on the role of implicit theories in sport.

Although there are many similarities between performing in school and in sport, there are also substantial differences between these settings, which may result in different empirical findings of research examining the role of implicit theories in these settings. First, the findings of correlational studies on the relationship between implicit beliefs and achievement goals in sport sometimes differ from those in school setting (Sarrazin et al., 1996, Study 1; Vella, Braithewaite, Gardner, & Spray, 2016). Moreover, the findings of studies on implicit theories in sport are not always in agreement with theoretical predictions (Burnette et al., 2013; Wang et al., 2009). Finally, experiments testing the causal effects of implicit theories in sport are few and have their limitations. A first shortcoming is that most of these studies have failed to measure either implicit theories or achievement goals (e.g., Jourden, Bandura, & Banfield, 1991; Kasimatis, Miller, & Marcussen, 1996; Moreno, González-Cutre, Martín-Albo, & Cervelló, 2010). A second shortcoming is that the participants in almost all experiments of implicit theories of motor abilities were either students or schoolchildren participating in their school setting, rather than competitive athletes participating in the setting of their sport.

For example, in an experiment with schoolchildren, no difference was found in the adoption of achievement goals between entity and incremental conditions before participants did a golf-putting test (Spray, Wang, Biddle, Chatzisarantis, & Warburton, 2006). Only after they had been led to believe they performed badly, children in the entity group were more likely to adopt performance goals and children in the incremental group were more likely to adopt mastery goals. A more recent experiment with athletes as participants, focused on the malleability of important mental skills for sport (Shaffer, Eklund, & Tenenbaum, 2015). Implicit theories were successfully manipulated, but no effects of the manipulation were found on achievement goal selection, attributions or behavioral measures. The inconsistent results of these studies in the sports domain require further clarification. One explanation for these findings could be that there are fundamental differences between intelligence and sport ability, which may cause implicit theories to have different effects in sport than in school.

Differences between implicit theories of intelligence and sport ability

It feels intuitive to draw a parallel between implicit theories of intelligence in school and implicit theories of ability in sport, but there are differences between the two domains that may warrant a separate investigation of implicit theories in the sport domain.

A first argument for this specific focus is that people may find intelligence more important than sport ability, and therefore attach more importance to school performance than sport performance. People who find intelligence more important than sport ability will probably react more strongly to assessment of their intelligence than to assessment of their athletic abilities, and be more disappointed when they learn they lack intelligence than when they learn they lack ability for a sport. Because athletes tend to be committed to their sport and thus interested in (the assessment of) their sport ability, the role of implicit theories in sport is best explored among athletes in the context of their sport.

Second, people could have different ideas about what is needed to succeed in school versus sport. People may believe that intelligence is a stronger determinant of school performance, while they believe that effort is a stronger determinant of sport performance (Li, Lee, & Solmon, 2006; Van der Veer, 2016). These beliefs may be learned when they observe that, in a school context, some pupils get good grades although they make little effort, while, in a sport context, talented athletes are overtaken by competitors who practice more. Furthermore, effort is likely seen as overzealousness in school (Bishop et al., 2004), and when grades are low despite hard work, it can be interpreted as a lack of intelligence. In sport, by contrast, effort is seen as a sign of sportsmanship and is positively valued, even when it does not lead to good results. If people believe that effort is more important for sport performance than for school performance, this could lead to stronger incremental beliefs in sport than in school. These differences in the importance ascribed to innate ability and effort may have consequences for the effects of implicit theories in school versus sport. That is, when innate ability is believed to be less important in sport, a lack of it is less disqualifying and less threatening.

Altogether, it is possible that implicit theories of ability in sport relate differently to outcomes (e.g., performance, learning, affect, and well-being) than implicit theories of intelligence in school. However, such a statement seems premature, because most studies on implicit theories in sport concerned students rather than active athletes. The role of implicit theories in sport is best tested in a sample of athletes. The high involvement of athletes in their sport may make them more open to manipulations about the importance of practice and talent for

success in sport, and may thus affect their motivation and performance more strongly than is the case in samples with (sporting) students. In this dissertation, I therefore mainly focus on athletes as participants in my studies on implicit theories in sport.

The role of parents

Parents are often cited as an important factor in the sport experiences of children, and parental achievement goals could be a portal through which the abstract goals, attitudes, and values of parents are translated into behavior and communication towards their children. Several studies have found that parental achievement goals relate to the achievement goals of their children in sport (Bergin & Habusta, 2004; Duda & Hom, 1993; Givvin, 2001), and an interesting question is how this correspondence in achievement goals is formed. A possible route is through the motivational climate in which children function (Gershgoren et al., 2011). Motivational climate refers to a psychological climate that is the result of situational characteristics, and shaped by behaviors of coaches, parents, and peers. Two climates are distinguished: a mastery climate and a performance climate. A mastery climate is characterized by an emphasis on effort as a way to improve, a focus on personal development in sport, the view that every member is important, and a recognition that mistakes are an inevitable part of the learning process (Newton, Duda, & Yin, 2000). A performance climate is characterized by the promotion of rivalry between athletes, unequal recognition of some athletes (for example based on better performance), and a negative attitude towards mistakes (Newton et al., 2000). Although the coach has traditionally been considered the most important social agent creating the motivational climate, a recent study shows that the parent-initiated motivational climate is more influential than the coach-initiated motivational climate for self-esteem, anxiety, and motivation (O'Rourke, Smith, Smoll, & Cumming, 2014).

Parental behavior and motivational climate

The parent-initiated motivational climate is a characteristic of a child's sport setting. This motivational climate likely originates (at least partially) from more general parental behaviors (i.e., behavior not specific to the sporting environment). The literature on parenting and achievement goals in school settings shows an association between parental behavior and children's achievement goals (e.g., Duchesne & Ratelle, 2010; Gurland & Grolnick, 2005). In the present dissertation, I examine if parental behavior also links to children's achievement goals in the sport setting.

Various taxonomies of parental behavior exist, but many recent studies distinguished between four types of parental behavior, namely (1) autonomy support, (2) responsiveness, (3) behavioral control, and (4) psychological control. *Autonomy support* is parental behavior intended to give children freedom to choose where possible, minimize the use of authority and control, and help them to act according to their own preferences (Soenens et al., 2007), which closely relates to the ideas of self-actualization and growth that are central to mastery goals. *Responsiveness* is parental behavior that expresses empathy and understanding of children's emotional experiences and perceptions (Soenens, Vansteenkiste, Luyckx, & Goossens, 2006). *Behavioral control* is parental behavior intended to regulate children's conduct, communicate guidelines and boundaries, provide structure, and help their children understand what is expected of them (Soenens et al., 2006). *Psychological control* refers to the use of manipulative and pressurizing techniques by parents (e.g., love withdrawal and guilt induction) to make their children think, act, and feel the way the parents want (Soenens et al., 2006).

An important question is how parental behaviors relate to achievement goals in their sporting children. In the present dissertation I develop and test theory on the association of parental behaviors and their children's achievement goals in sport, as mediated by parent-initiated motivational climate. I expect that the parental behaviors of autonomy support and responsiveness will relate to a mastery climate, because these behaviors emphasize and facilitate children's personal development. In contrast, I expect that behavioral control and psychological control will relate to a performance climate, because these behaviors emphasize meeting external expectations and standards for performance, and often involve the prospect of negative consequences for failure or improper behavior. The motivational climate, in turn, will predict achievement goals in young athletes. I expect that parent-initiated mastery climate will relate to mastery goals, whereas parent-initiated performance climate will relate to performance goals.

Research aims

The core aim of this dissertation is to examine two sets of determinants of achievement goals in sport: (a) implicit theories among athletes and (b) the behaviors of parents. For accomplishing this aim, I will first develop a measure of implicit theories of ability in sport and investigate relations between implicit theories and achievement goals. To study the relations between implicit theories of ability and achievement goals, a valid assessment of implicit theories of ability

in sport is needed. In Chapter 2, I develop the Dutch version of the CNAAQ-2 (Biddle et al., 2003) and investigate its psychometric properties in three samples of Dutch athletes. I examine its factor structure to address the issue whether implicit theories in sport should be conceptualized as two constructs or as one bipolar construct. I further examine the convergent validity and explore relations of implicit theories of ability with achievement goals.

Second, I will test whether implicit theories influence the emergence of specific achievement goals and their resulting (mastery- and helpless-) response patterns. In Chapter 3, I investigate the possible causal links between implicit theories and achievement goals by conducting three experiments in which I manipulate athletes' implicit theories. Also, I examine the effects of implicit theories on athletes' motivation to practice, and performance.

Finally, I will examine how parental behaviors relate to their children's achievement goals, and whether these relations are mediated by motivational climate. I examine relationships between parental behaviors, motivational climate, and achievement goals. Because most studies of the motivational climate in sport have focused on the coach, I assess both parent-initiated motivational climate and coach-initiated motivational climate. Furthermore, I include implicit theories, perceived competence in sport, and parental involvement as control variables.

The three empirical chapters in this dissertation investigate the role of ideas about learning and talent in sport. This will clarify relations between implicit theories of ability on the one hand, and achievement goals, motivation to practice, and performance on the other hand. Furthermore, I bring the role of parents to the foreground when investigating how general parenting behavior may translate into the creation of a parent-initiated motivational climate, which in turn may affect adolescent athletes' achievement goals. Finally, in Chapter 5, I discuss the contributions of my findings to the literature, I make suggestions for future research, and I elaborate on how parents, coaches, and athletes can benefit from what I have found.