ATHLETE LEADERSHIP BEHAVIOR - HOW IT RELATES TO PERCEIVED TEAM COHESION AND PLAYERS' SATISFACTION IN ELITE SPORT TEAMS.

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ABSTRACT

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So far only little is known about athlete leadership. Instead, previous research in sports leadership focused on the role a coach plays within sport teams. Yet, first studies could raise awareness for the importance of athlete leaders who occupy a formal or informal role in a team. Initial research results showed a significant impact of athlete leadership behavior on perceived team cohesion and the satisfaction of team members. Additionally, the concept of motivational leadership was recently introduced and claimed to be one of the most important functions leaders may overtake. Thus, this study aimed to confirm former findings and extent the knowledge by taking a new behavior pattern of motivational leadership into account. More specifically, the purpose was to further examine perceived and preferred leadership behaviors of key players in elite sport teams, just as to investigate their impact on perceived team cohesion and individual athlete satisfaction. Finally, mediation models were expected to clarify the complex interaction between leadership behavior, team cohesion and satisfaction.

Six semi-/ professional sport teams were included in the study. Participants were asked to fill in a survey battery which included a modified version of the Leadership Scale in Sports, the Group Environment Questionnaire and ten subscales of the Athlete Satisfaction Questionnaire and took approximately 20 minutes. Team members were asked to fill in the LSS twice, thus assessing perceived and preferred leadership behaviors. In contrast to former studies, athlete leaders were supposed to complete a self-perceived rating of their behavior patterns, instead of only focusing on the evaluation of other team members. The collected data was then analyzed using SPSS. T-tests showed significant differences between the perceptions and preferences of athlete leaders and their team mates. Moreover, linear regression revealed significant effects of athlete leadership behavior on several dimensions of cohesion and satisfaction. Finally mediation models confirmed former findings by suggesting that Group Integration either fully or partly determine the effects of leadership behavior on satisfaction.

The current results extent the knowledge about athlete leadership. It was found that Positive Feedback and Motivational Leadership were the most valued behaviors and also had the greatest influence on the outcome variables. Thus, the present study could confirm earlier findings suggesting an impact of leadership behavior on team cohesion. Interestingly, the higher salience of social cohesion was associated with athlete leadership. Moreover, cohesion seemed to be determinant when predicting athlete satisfaction based on leadership behavior. Practical implications may be considered for the development of leadership trainings and for the selection process of team leaders.

Keywords: leadership, team cohesion, athlete satisfaction

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1 INTRODUCTION

"Having great leadership is a big key to success. It's really the leaders' team because they are the ones whom the rest of the players, especially the freshmen, look up to when setting the standards. Our team will go as far as our leaders are willing to take us."

Mike Candrea,

former USA Softball Olympic Head Coach

(Retrieved from http://www.teamcaptainsnetwork.com/public/138.cfm; 11.02.2012)

Although former research may have focused more on the coach as a leadership figure within the field of sports (e.g. Paradis, & Loughead, 2010), there is still an extensive range of anecdotal evidence about the importance of athlete leaders. These are the key players within a team, sometimes they are the most talented, the most successful and most liked players as well, but they are always expected to be the hardest working, the most influential and the most reliable people (Price, & Weiss, 2011). If the coach matters, they do as well.

One of those stories is told by Oliver Kahn a German goal keeper legend. He once wrote that key players were not just the communicator between the team and the staff members or even the management, but that their main task and challenge was to read the team and its individual members. What he means by this becomes clear when emphasizing that people react differently and need to be treated as individuals but without losing sight of the team as a whole, in which everyone also wants to be treated equally. He continues talking about the emotional and motivational atmosphere at different points of time, like the beginning of the season, after a lost game, during a tough practice session or even during a period of success, and, the importance of stabilizing the atmosphere or activating the enire team at the right time. Moreover, he mentions the use of the public media - not just to represent the team but also to influence it. To make it feel strong in unsuccessful times, to keep it settled during success, to provoke some fire or to settle down conflicts. Lastly, he says that as a team captain you are the one who is in a position

to inspire and to excite your team mates by working hard, identifying with the team's spirit and simply enjoying the sport - Oliver Kahn knows what he is talking about, as he has been the captain of the German national soccer team for over two years and of FC Bayern München for almost ten years (Kahn, 2011, p.35).

There is definitely a lot to learn from those captains like Oliver Kahn, but knowledge cannot just be based on the perception of one person or a small group of outstanding people. Thus, besides anecdotes which illustrate the essential role of athlete leaders in a team, profound research is needed to deepen our understanding of different functions of players in team and individual sports.

However, past research mainly focused on organizational leaders or the coach when studying leadership behavior in sports (Cumming, Smith, & Smoll, 2006) – should he be more autocratic or democratic? What kind of feedback fosters performance? How can the coach-athlete-relationship be improved? Answers to those questions are now leading the path to an understanding of athlete leadership.

2 LITERATURE REVIEW

2.1 Leadership Models

"Leaders are simply people who are made of the right stuff" (Haslam, 2004,p.41) – the Great Man Theory can be seen as the starting point of leadership theories within organizational psychology. Personality and qualities of leaders have continuously attracted interest in psychological research, may it be in business, educational or even sports psychology. The question of "What makes a person X special?" might be one of the most commonly asked ones within this field of research, but also in everyday life. Time has passed examining this question and yet there is no clear answer which is describing "the leadership personality". Rather the focus changed to observing leaders' behaviors and situational factors. Nowadays, effective leadership is considered a result of a set of skills and an interaction with the direct environment, instead of personality traits. Moreover, it is the followers who have a great influence on the leaders themselves; it is not for nothing Ledru-Rollin stated already in 1848 "I must follow them, I am their leader!".

Leadership has developed to the most important topic within organizational psychology (Haslam, 2004) and has been researched extensively. This profound knowledge builds nowadays the foundations for more specific examinations in other fields, like sports or educational psychology. Thus, before delving more into the latest athlete leadership research it is necessary to consider the underlying basics of the topic to form a common understanding of the concept of leadership in general and in sports specifically.

Organizational psychology therefore usually defines leadership as "a process of influencing others in a manner that enhances their contribution to the realization of group goals" (Haslam, 2004, p. 40) or simply as an interaction between the leaders and followers to achieve a shared goal. (Northouse, 2004). Considering both definitions, four important aspects about leadership can be stated: leadership is dynamic (1, "process") and takes place in a group of people (2). These people are guided by the leader (3) towards a shared goal (4, the purpose of leadership). Besides, Haslam (2011) differentiates the mere acts of management, decision-making and authority from the process of leadership itself, and considers them as subordinated aspects rather than synonyms. In his opinion leadership is about creating beliefs and desires in followers. Thus, a leader should not seek for

compliance of his followers but rather for an influence on people in order to make them want to work towards a common goal. Particularly the latter understanding of leadership seems to be very applicable in sport settings, as especially athletes on an elite level tend to be highly intrinsically motivated and consider sport more as part of their personal identity than just an occupation (Mallett, & Hanrahan, 2004). A leader who is able to direct this intrinsic motivation might act as a catalyst for great performances.

Within social and organizational psychology many models have already been proposed to shed more light on this process of leadership. Although not all of them seem to be applicable within the sports context, the foundations are thoroughly transferable.

Looking at leadership from a situational perspective, the basic styles of democratic, autocratic and laissez-faire leadership, as suggested by Kurt Lewin need to be mentioned. In their research Lewin, Lippitt, and White (1939) examined the effectiveness of leaders in different situations. Although groups with autocratic leaders were most productive when the leader was present, it was concluded that democratic leadership was the most liked and on average most efficient style. Laissez-faire leadership on the other hand was neither liked nor productive. Similar findings were made in sports context when examining preferences of athletes. For example, Sherman, Fuller and Speed (2000) reported a generally higher preference of democratic over autocratic leadership behavior for female and male athletes. They confirmed previous findings by Terry and Howe (1984), who also proposed clear preferences of democratic behavior across level, age and gender.

In line with the situational approach of Lewin et al. (1939) is Fiedler's contingency model of leadership effectiveness (1964). It proposes the dependence of effective leadership on a match between situational requirements and a leader's style. Fiedler differentiates between task-oriented and relation-oriented leadership styles, which are more or less effective depending on the favorableness of a situation. Favorableness is hereby determined by the position power, the task structure and the relation between leader and follower (Hill, 1969). In sports context several resources report similar patterns, e.g. Beam, Serwatka, and Wilson (2004) stated different preferences of female and male athletes regarding task- and relationship-oriented behaviors. The very same seems to account for expectations regarding coaches' and athletes' leadership behavior (Loughead, & Hardy, 2005).

Based on Fiedler's model House (1971) created the more comprehensive Path-Goal Theory of leadership in which the leader is viewed as a facilitator of his/her subordinates. As such he/she provides support, information and resources to increase a follower's satisfaction and performance. Thus, the focus of the theory now moved from the leader to the subordinate, who determines the required leadership behavior in interaction with the task and situation. Therefore, leadership behavior is not longer seen as a personal trait but rather as a skill or habit that needs to be adjusted. In the first draft of his theory, House suggests four types of behaviors: directive, supportive, participative and achievement oriented leadership styles. In a revised version of the Path-Goal Theory (1996), a total of eight different leadership styles are mentioned, offering a wide spectrum of behaviors which's effectiveness differs in diverse situations (see Table 1 for a summery).

Table 1: *Leadership Styles according to House (1996)*

Leadership Style	Description - The leader...
Work Facilitation	...enhances the development and ability of subordinates to work autonomously.
Supportive Leadership	...enhances psychological security.
Achievement Oriented Leadership	...arouses achievement oriented behaviors and encourages followers to take calculated risks.
Group Oriented Decision Process	...allows subordinates to influence decision making processes.
Interaction Facilitation	...empowers followers to engage in reciprocal coordination and inter-dependent actions.
Representation & Networking	...enhances legitimacy of work units and the resources available to their members.
Value-based Leadership	...strengthens subordinates self efficacy and conviction in the appropriateness of their actions, just as collective identification and the motivation to contribute to collective goals.
Path-Goal Clarifying Behaviors	...establishes delegation for authority and responsibility.

Although this theory has not particularly been studied within sports, it provides basic role definitions and orientations of sport leaders. It also suggests strategies to improve the followers' satisfaction and performance. Moreover, many parallels to common leadership functions and theories within sports can be seen, for example Supportive Furthermore, Group Oriented Decision Making or Value-Based Leadership. Moreover, the Path-Goal Theory provided a foundation for the Multidimensional Model of Leadership in Sports (Chelladurai, & Saleh, 1978). Later on, Chelladurai and Saleh (1980) confirmed that the dimensions of the Leadership Scale in Sports (LSS), are consistent with the by House stated theory. Both will be introduced in the next paragraph. In conclusion, the Path-Goal Theory, which is derived from organizational psychology, can be considered one of the most influential leadership models in sport.

Before addressing more sport specific models of leadership one last concept of organizational psychology needs to be discussed. Transformational leadership has attracted great attention of researchers as well as applied working psychologists during the last decades. The concept was first introduced by Bass (1991) who stated that transformational leadership is characterized by influencing employees in a manner that raises their awareness and acceptance of a shared group vision, facilitates and widens employees' personal interests, and motivates them to prioritize the good of group needs over their own benefits. This may be achieved by showing four particular characteristics or behaviors of leadership, which are charisma, inspiration, intellectual stimulation and individual consideration. Bass also emphasizes that those characteristics are far from personality traits but rather learnable by everybody. Over the last years a wide body of research has developed, not just within business, but also within educational psychology, military or government (Bass, 1999). The majority of those studies could support the effectiveness of transformational leadership and broadened the understanding of the psychological effects leaders may have on their followers. For instance, Shamir, House, and Arthur (1993) report a higher salience of collective identity, an improved consistency between one's identity and behaviors on behalf of the leader, better self-esteem, similar perceptions of the self and the leader, a sense of collective efficacy and a sense of meaningfulness. Considering the fact that those attributes are of high value it is surprising that the concept of transformational leadership is still relatively new within sport settings. However, first studies could

support the assumptions made within business psychology. It was shown, for example, that transformational leadership had a positive effect on performance via improving the athletes' the intrinsic motivation (Charbonneau, Barling, & Kelloway, 2001). Moreover, it has already been integrated into the Multidimensional Model of Leadership.

Leadership Models in Sports

Having outlined the very basics of leadership psychology it is also important to take a closer look at specific leadership models in sports. The before mentioned Multidimensional Model of Leadership in Sports by Chelladurai and Saleh (MML; 1978) seems to be by far the most popular and influential one. In line with previous research, leadership is considered a complex process, in which situational factors, leaders' characteristics and followers' characteristics determine the final effectiveness of the shown behaviors. As presented in figure 1, the required (by the situation) and preferred (by the athletes) behaviors are directly influencing the actual behavior of a leader (determined by his characteristics). Additionally, they have an impact on the effectiveness of the shown leadership behaviors. Effectiveness does in particular concern the performance as well as the athletes' satisfaction, which are in turn effecting the leaders' behavior. In order to become highly effective, Chelladurai and Saleh promote a congruency between the three dimensions of behavior. Moreover, a continuous comparison and adjustment of the expected and shown behaviors is required since leadership is a dynamic process rather than a stable factor.

Later on, Chelladurai also included the concept of transformational leadership in his revised Multidimensional Model of Leadership (2001, cited from Riemer, 2006), which serves as an antecedence for the three dimensions of leadership behavior. Thus, it was taken into account that leadership not only depends on the leaders' characteristics and skills, but also influences the athletes and has an impact on the organization and situation. Hence, the requirements and expectations of the leader's environment can be actively determined by the leader himself. For example, the athletes may identify more with the philosophy of a sports club or adjust their aspiration to those of the leaders (e.g. coaches, management) if those share an attractive vision. However, the model does not assume that transformational leadership is a necessity for being effective but rather

suggests it as a facilitating addition to the underlying transactional approach of the Multidimensional Model of Leadership in Sports.
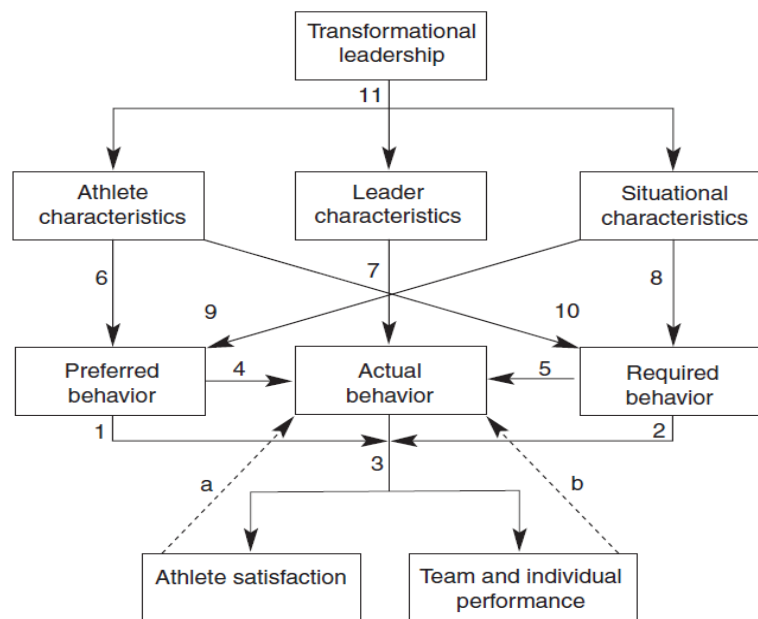
Figure 1: *The revised Multidimensional Model of Leadership in Sports (Chelladurai 2001, cited from Riemer, 2006, p. 61)*

In order to access behavior patterns according to the Multidimensional Model of Leadership in Sports, Chelladurai and Saleh (1980) created the Leadership Scale for Sports (LSS) which is now one of the most used instruments in the context of leadership in sport. The questionnaire was developed based on diverse instruments from organizational and sports psychology, like the Leader Behavior Description Questionnaire (Hemphill & Coon, 1957) and its modified version the Behavior Description Questionnaire-Form XII (Stogdill, 1963), and the Leader Opinion Questionnaire (Fleischmann, 1957b). Chelladurai comprised those into an instrument which only consists of five dimensions - Training & Instruction, Positive Feedback, Social Support, Democratic Behavior and Autocratic Behavior. The questionnaire is available in different formats, assessing either perceived, self-perceived or preferred behaviors of a leader. Interestingly, the Multidimensional Modal of Leadership in Sports and the LSS were both administered to not only assess coaches' behaviors in sports, but also the behavior of athlete leaders (e.g. captains) (e.g. Paradis, & Loughead, 2010; Vincer, & Loughead, 2010).

Besides the Multidimensional Model of Leadership in Sport and the belonging LSS, there are several other instruments available to assess leadership behavior

which need to be taken into account. They are mainly based on the cognitive-behavioral model of Smoll and Smith (1989). Their concept builds a complex theory to describe a coach's behavior depending on situational influences, and individual variables of coaches and athletes. Although a description of this model would be beyond the scope of this study, the different instruments to access a leader's behavior are worth mentioning. The Coach Behavior Assessment System (CBAS, Smith, Smoll, & Hunt, 1977) as well as the Coach Evaluation Questionnaire (CEQ, Rushall, & Wiznuk, 1985) and the Coach Behavior Questionnaire (CBQ, Williams, Jerome, Kenow, Rogers, Sartain & Darland, 2003) originate from this model. They have been widely used to assess behavior patterns of coaches (Cumming et al, 2006), but have not been considered for research in athlete leadership behavior. Whereas the CBAS is a mere observational instrument to assess the actual behavior of coaches, the other two are also integrating the perceptions and evaluations of the athletes. However, they are only differentiating between negative and supportive coaching behaviors rather the specifying certain strategies.

The most recent approach to describing coaching behavior was suggested by Cotè (1998) who developed the very comprehensive Coaching Model, which integrates and extents the mentioned theories. It considers strategies used by coaches during competitions, trainings and in organizational settings. In order to assess this complex model the Coaching Behavior Scale in Sport was developed (CBS-S; Cotè, Yardley, Hay, Sedgwick, & Baker, 1999). This questionnaire consists of the six dimensions Physical Training & Planning, Technical Skills, Personal Rapport, Goal Setting, Mental Preparation and Negative Rapport. However, this model has not yet been studied in the scope of athlete leadership.

Thus, having displayed different possibilities to survey leadership behavior, the question arises which of the instruments is the most appropriate one to use. There is clearly no definite answer, it rather depends on the purpose of the research. Is it, for example, important to assess very detailed behaviors or is it more about the broader concept of behavior styles? Is the actual behavior of interest or rather the evaluation of it? Considering that the current study is not looking into coaches' behaviors but is rather interested in athlete leaders the LSS seems to be the most applicable instruments to administer. Thus, the study by Loughead and Hardy (2005) could prove that athlete leaders a certainly engaging in the behaviors

assessed by the Leadership Scale for Sports. Furthermore, a modified version of the scale could prove satisfying reliability values within the scope of athlete leadership (r = .74 to r = .88). Lastly, it also seems to be the most focused instrument without overloading the participants with too many items.

2.2 Defining Athlete Leadership & Leadership Functions in Sport

Now, what is athlete leadership and why study it? In an attempt to answer these questions, Loughead and Hardy (2005) took a first step and compared leadership behavior between coaches and peer leaders by conducting the Leadership Scale for Sports. Their results indicated that it is indeed appropriate to assume significant differences in the behavior patterns of coaches and athlete leaders. While coaches show more Training and Instruction as well as Autocratic Behaviors than athlete leaders, the pattern is reversed for the amount of Positive Feedback, democratic decision-making behaviors and Social Support. Therefore, the authors conclude that coaches mainly focus on performance enhancement, whereas athlete leaders aim to influence group solidarity and integration. Future research could be conducted to examine the effects of those two very different approaches to the motivation and working ethic of team members.

However, based on the assumption that there is a difference between coach and athlete leadership, it is necessary to further describe what athlete leaders are. Loughead, Hardy and Eyes (2006, p. 144) defined an athlete leader as "an athlete occupying a formal or informal role within a team who influences a group of team members to achieve a common goal", whereas Moran and Weiss (2006) specified this concept even further by saying that team leaders are responsible for developing team goals and for organizing and directing the team members to accomplishing these "missions". Taking those definitions into account, it can be stated, that it is necessary to consider informal leaders as well as the formal assigned team captains, when researching athlete leadership behavior.

One of the first studies concerning this issue of "the nature of athlete leadership" was conducted by Loughead, Hardy and Eyes (2006) who studied the formalization of the athlete leader position in association with the functions (task, social, external) those players occupy. While task leaders focus mainly on achieving the objectives of their teams by giving instructions, clarifying responsibilities or making decisions concerning

the team, social leaders are considered the most trusted people in a team, they try to improve harmony, offer support and help solving conflicts. In addition to these internal functions also external tasks need to be considered, especially in higher level sports. External leaders are promoting and representing the team to the community, the media as well as to the coaches. Moreover, they try to shield the team from outside influences and distractions. The results of the Loughead et al. (2006) study showed that formal leaders mainly occupied representational functions and that they built a bridge between coaches and athletes, whereas informal leaders are influencing the group culture and group processes. Concerning the formalization of the athlete leader role, the authors proposed that players who were rated "team leaders" (chosen by more than 50% of the team) mainly engaged in a formal role in their team, compared to most of the peer leaders (at least stated by two other team members) who occupied an informal role. No significant variation above their functions was found. Altogether, about 27% of the team members were considered as leaders, and this ratio seemed to be relatively stable over the season regardless of functions and roles of the athletes.

Although the roles of both, formal and informal leaders were mentioned before, it needs to be pointed out that most studies looking into athlete leadership focused on the captain as the ultimate leader of the team. Indeed, the media and even high level sports support that notion by emphasizing great leaders like Michael Ballack, the former captain of the German national team, or Zinedin Zidane in France. However, present research in business psychology and sports proposes another approach, so called shared leadership or "flat hierarchies". To illustrate this concept we can go back to the above mentioned examples of the French and German soccer teams: Whereas both were lead by very strong, outstanding leaders during the world cup 2006 it is remarkable that nowadays the teams are officially lead by a group of players who are taking over different responsibilities, e.g. maintaining motivation and a positive attitude or being critical. An even stronger tendency can be observed in handball in which the agency of a captain was officially abandoned already in 2005.

A study conducted by Fransen, Vanbeselaere, Vande Broek and Boen (2014) sheds some light onto the perception of those team captains. Here, almost half of the participants, independent of gender or sport level, did not consider the captain as the best leader of the team. Instead about 70% stated that informal leaders were taking the lead on and off the field. Considering the four examined functions of athlete leaders (task, motivational, social, external), only 1% of the participants ascribed their captain

to all of those. Most of the time the captains took over the lead on the field and were regarded as the task (~30%) or motivational leaders (~ 25%). A study conducted by Price and Weiss (2013), in which only about half of the participants considered their captain to be the ideal leader on the team, supports those results. Considering these findings, the previously stated necessity of investigating formal and informal leaders becomes even more distinct.

Expectations & Duties of Athlete Leaders

Besides investigating formal and informal roles in sport teams, existing research also focused on the characteristics of athlete leaders and expectations coaches may have of those. One of the first studies was run by Yukelson, Weinberg, Richardson, and Jackson (1983) who compared the characteristics of collegiate soccer and baseball players with their leadership and friendship status. Leadership status was significantly associated with better perceived performances, an internal locus of control and eligibility standing. In addition to those personal characteristics the playing position of an athlete might be of importance. Lee, Cobum, and Partridge (1983) suggested that athlete leaders were more likely to occupy a central position on the field than any other. More recently Bucci, Bloom, Loughead and Caron (2012) examined the coaches' perspective of athlete leadership. As stated by the coaches, captains were asked to form a connection between the staff members and the team by establishing individual rapports and joining meetings about team goals. The captains were also expected to act as a role model; they should show respect and openness and place their personal goals behind the common team goals. Furthermore, they should be able to influence the team concerning cohesion and attitudes, and therefore, captains needed to be trustworthy, attentive and open to suggestions made by team members. Bucci et al. (2012), then, stated that the selection of team captains was mainly dependent on the character, experience and potential of a player. Moreover athletes sharing similar values as coaches were more likely considered to act as an extension of the coaching staff. In this study coaches also seemed to prefer collective leadership systems with athletes having complementary leadership skills rather than single captains. To develop necessary skills the captains overtook diverse responsibilities and were offered opportunities to make their own decisions. Additionally, the coaches emphasized the development of a strong work ethic, an absolute desire to win and honesty in order to enable the athletes to lead by example. Taking this into account Bucci et al. (2012) are suggesting to use the Multidimensional

Model of Leadership, developed by Chelladurai (1978), when investigating athlete leadership, since its theoretical framework is already well established in coaching literature.

As mentioned before, the Leadership Scale for Sports (Chelladurai, &Saleh, 1980) was developed to measure those three states of leadership behavior suggested by the model. The scale consists of the five dimensions: Training & Instructions, Positive Feedback, Social Support, Democratic Behavior and Autocratic Behavior. It has mainly been validated to assess leadership behavior of coaches, but is also being used for athlete leader behaviors, like Dupuis, Bloom and Loughead (2006) did. They explored the perceptions of team captains concerning athlete leadership by interviewing six former high level ice hockey players. Taking the framework of the Leadership Scale in Sports Questionnaire (LSS; Chelladurai, & Saleh, 1980) into account, they found very similar results compared to Bucci et al. (2012), proposing that captains mainly engage in task behaviors related to the subscale of Training and Instructions. Moreover, they considered themselves as the bridge between the coach and their team. Accordingly, verbal interaction was emphasized by the team captains. Besides giving general information, the most central purposes of communication indicated by the captains were raising motivation and confidence of team members. Next to effective communication skills, captains also mentioned the importance of maintaining a positive attitude, the ability to control emotions, remaining respectful and being trustworthy as the characteristics of an athlete leader.

While Dupuis et al. (2006) focused on team captains, Holmes, McNeil, Adorna, and Procaccino (2008) concentrated on the perceived and preferred behavior of peer leaders, paying special attention to gender differences. Using the framework of Chelladurai's Multidimensional Model of Leadership they assessed behavior patterns via a modified version of the Revised Leadership Scale in Sports (Zhang, Jensen, & Mann, 1997). The results indicated differences between men and women: while male athletes tended to prefer more autocratic behaviors and emphasized a good working ethic and performance, females wanted their leaders to be more vocal and encouraging. Only unremarkable differences occurred for aspects like personality traits, caring for team mates and being a role model off the field, which seemed to play an important role for all athletes. In general, it might be assumed that male athletes prefer task-orientated, while female athletes favor relationship-orientated leadership styles (Beam, Serwatka, & Wilson, 2004; Eagly & Karau, 1991). Those findings were confirmed by a qualitative

follow up study by Holmes, McNeil, and Adorna (2010) which aimed to gain deeper information about characteristics of athlete leaders. Again differences occurred for female and male athletes, but also for formal and informal leaders, as well as for different stages in the sport career and the kind of sport. However, the findings by Moran and Weiss (2006) contradict the above mentioned tendencies. The researchers compared the perceived leadership status of female and male athlete leaders with the perceptions of their team members and coaches. The authors also included psychosocial variables in order to predict one's leadership status. Results showed that coaches considered mostly the ability as a determinant predictor for leadership, whereas athletes also took other variables into account when evaluating their individual status in the team. Clear gender differences were found for the ratings of team members, suggesting that female athletes only paid attention to a player's abilities. In contrast, both, psychosocial variables and ability measures, turned out to be significant predictors for perceived leadership status in male athletes. The authors explained those inconstant findings by the social-exchange concept of leadership, proposed by Hollander (1980). It suggests that a leader should be able to cover an expressive (female/relationship-orientated) and instrumental (male/ task-orientated) role in a group to be successful. In conclusion, athlete leaders are expected to have an impact on both, task- and social-related issues.

Latest research draws a very manifold profile of athlete leaders, who seem to cover a range of different responsibilities, attitudes and personal characteristics. Moreover, leadership behaviors might differ on the gender or sport level. Previously mentioned qualitative studies especially emphasized the significance of psychosocial variables, communication, work ethic and emotional/ motivational regulation. Price and Weiss (2011) nicely sum those results up by stating that peer leaders are players who believe in their skills, are liked by their team mates, prefer challenging tasks, and act appropriately in their function as a role model.

Qualitative studies could also show that the aspects of emotion and motivation seem to play a particular important role when talking about leadership in sport. However, research focusing on those is still spars. A first attempt to examine the concept of motivational leadership within sport teams was undertaken by Fransen, Vanbeselaere, Vande Broek and Boen (2014) who were interested in investigating the different roles of athlete leadership more comprehensively than it has been done before. In their study the researchers offered four different definitions of leadership roles (task,

motivational, social, external) and asked the participants to rate their importance as well as assign team members to those categories. Hereby, the motivational leader was defined as " the biggest motivator on the field; this person can encourage his/her teammates to go to any extreme; this leader also puts fresh heart into players who are discouraged. In short, this leader steers all the emotions on the field in the right direction in order to perform optimally as a team.". It was rated the second most important role after the task leader. Moreover, due to the low overlap with other leadership roles, the motivational leader on a team can be considered as a distinct concept (Fransen et al., 2014).

To support the importance of motivational and emotional leadership, two more studies need to be outlined. Fransen et al. (2012) found that the expression of collective efficacy by the athlete leader was a highly significant predictor of perceived collective efficacy by the team. Coaches rated it as the best predictor out of 40 suggested items. On the other hand Apitzsch (2009) stated that collective collapse can occur due to the absence of a socio-emotional leader on the field. Although this phenomena might not be an everyday one, it certainly emphasizes the importance of substantial leadership skills since those seem to be determinant especially in stressful situations. Knowing that negative emotions and attitudes are highly contagious, it seems to be of special importance that an athlete leader is able to control his or her emotional reactions, stay positive and remain able to motivate his team members. Furthermore, clear communication skills and team mate directed- rather than self-centred behaviours are essential. Accordingly, establishing a socio-emotional leader, who is responsible for creating a positive atmosphere on the field due to his/her high emotional expressiveness and positive influence on team members, might be a possibility to avoid collective collapse. Besides, Apitzsch (2009) stated that the captains, who were examined during the study, were not able to fulfil their duties as team leaders and thus suggests that shared leadership roles might improve the team's performance. This notion is supported by the findings of Morgan, Fletcher and Sarkar (2013), who aimed to define and characterize team resilience and found that usually a group of leaders was present during challenging situations. Also, they recommended to optimize the influence of team leaders during setbacks in order to foster the confidence of their players.

2.4 Leadership Correlates

Team Cohesion & Leadership

Besides leadership, the public media is often referring to the concept of teamwork. Reporters talk about a tensed team climate after poor performances or the blind understanding of teammates when playing on the top of their abilities. In academic research this concept is called team cohesion and it has not only received much attention in the media, but it is also considered the most important factor within academic research on group dynamics (Carron, Eys, & Burke, 2007). Thus, it is necessary to understand who and what may influence team cohesion and how this can be optimized.

But before delving deeper into the dynamic processes connected to team cohesion the model itself needs to be explained. Hence, team cohesion is defined as "a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs" (Carron, Brawley, & Widmeyer, 1998). According to Carron et al. (1998) team cohesion is described by multiple dimensions. Hence, it can be differentiated between Group Integration and the Individual Attraction to the Group. The latter reflects the individual feelings of group members about the group as well as their personal motivation to attract the group and remain in it. Group Integration on the other hand describes the individual perception of the closeness in the group, just as the perceived similarity between group members and their bonding behaviors. Furthermore, it is distinguished between a social and task focus. Social cohesion presents the groups strive towards creating and sustaining social relationships and activities within the team, whereas task cohesion is viewed as the orientation towards meeting the group goals (Carron et al., 2007). The model is presented in Figure 2. Carron et al. (2007) are, also emphasizing the instrumentality of team cohesion by saying that every group stays together for a set purpose. Furthermore, team cohesion seems to be related to affective processes within their members and thus also influences individual satisfaction.
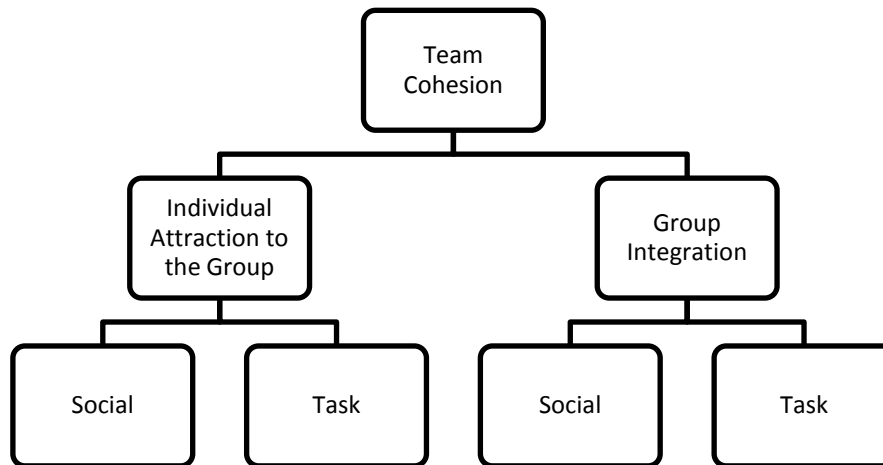
Figure 2: *Conceptual Model of Team Cohesion (Carron, Brawley, & Widmeyer, 1985)*

In order to investigate team cohesion quantitatively Carron et al. (1998) developed the Group Environment Questionnaire (GEQ). It consists of the four subscales Individual Attraction to the Group - social (ATG-S), Group Integration - social (GI-S), Attraction to the Group - task (AGT-T) and Group Integration - social (GI-S) which add up to a total of 18 items. It is available for youth sports (Eys, Loughead, Bray, & Carron, 2009) and has also been translated in several languages (e.g. Spanish, Portugese). The German translation has recently been developed and used by Ohlert (KIT-L, 2011). It has been tested in elite level sports and showed sufficient reliability (Cronbach's Alpha between r = .74 and r =.78) and validity in interactive and coactive team sports. As the GEQ is already an established instrument and widely used within international research it was favored over another German questionnaire created by Lau, & Stoll (MAKO-02, 2002), which tends to be very popular in German sports psychology. The main difference lies in the factorial categorization of the questionnaires. The MAKO-02 does not differentiate between Attraction of the Group and Group Integration, but only between social and task cohesion. Considering previous research findings, the clear distinction between the four dimensions of cohesion, as it is found in the original GEQ, was a contributing factor for favoring the German translation of the GEQ (KIT-L, Ohlert, 2011).

Knowing that team cohesion is a complex concept which relates to several outcome variables like performance and satisfaction, it is also important to understand which variables determine it. Therefore, besides relatively stable factors like gender or competitive level, leadership seems to play a significant role too. However, research,

once again, focused more on behaviors shown by coaches. For example, Turman (2001) aimed to explore techniques of coaches used to facilitate team cohesion and found that behaviors in line with social support, a democratic decision-making style and rewards are considered helpful, compared to sarcasm or teasing. Taking current results together it seems that the aspects of Training and Instruction, Positive Feedback and Democratic Behavior are not just preferred behaviors but also lead to better team cohesion (Shields, Gardner, Bredemeier, & Bostro, 1997; Vahdani, Sheikhyousefi, Moharramzadeh, Ojaghi, & Salehian, 2012). Moreover, those seem to have a greater impact on task than on social cohesion and are mainly mediated by the coach-athlete relationship (Jowett, & Chaundy, 2004). As Pensgaard and Roberts (2002) state: the coach matters – not just in terms of behavior according to the subscales of the Leadership Scale in Sports but also their coaching style – mastery- or ego-orientated.

Understanding the influence of coaches' leadership behaviors, it seems likely that athlete leaders also contribute to the team atmosphere and cohesion. This is supported by the notion that athlete leaders tend to show more relation-orientated behaviors compared to coaches (Loughead, & Hardy, 2005). However, only a few studies were conducted in the frame of athlete leadership. For example, Price and Weiss (2011) found that higher ratings in instrumental and pro-social leadership were correlated with a greater perceived social cohesion of the team. They suggested that those leaders possessed characteristics which were related to beliefs of team unity. Moreover, Vincer and Loughead (2010) examined the four aspects of team cohesion related to athlete leadership by collecting data with a modified version of the LSS and the Group Environment Questionnaire (GEQ; Carrón, Widmeyer, & Brawley, 1985). They proposed that the dimensions Training and Instruction as well as Social Support were positively associated with all four dimensions of team cohesion, whereas Autocratic Behavior was negatively related to the very same. There was, however, an unexpected non-significant correlation between the dimensions of Positive Feedback or Democratic Behavior (except of Individual Attractions to the Group-Task) and the aspects of team cohesion. This is inconsistent with the findings by Loughead and Hardy (2005) who proposed a higher occurrence of Positive Feedback and Democratic Behavior provided by athlete leaders than by coaches. Vincer and Loughead (2010) therefore assumed that positive feedback from the coach might be of higher value than positive reinforcement given by athletes. In consideration of those results the question arises whether there are actually differences in the influence on cohesion between

coaches and athlete leaders. First attempts to clarify this question were undertaken by Price and Weiss (2013) who compared the outcomes of transformational peer and coach leadership within adolescent soccer players. The results show a clear distinction between the impact of coaches and peer leaders. Hence, a greater influence of coaches on individual outcomes like motivation or performance, compared to a more group-oriented influence of peer leaders, was found. In line with that, results for peer leaders suggested an influence on social and task cohesion, whereas coaches only seem to contribute to task cohesion. Paradis, and Loughead (2010) investigated that relation in more detail and lined out that task-related leadership behaviors (Training and Instruction) were predicting task cohesion, whereas social-oriented behaviors (Social Support) were predicting social cohesion. Democratic, autocratic and Positive Feedback behaviors were related to both dimensions of cohesion. Summing up, there is clear evidence that supports the assumption of an impact of athlete leadership behavior on team cohesion. However, the previous results seem to be quite contradictory at times. Thus, more research is needed to shed light on the complex relation between athlete leadership and cohesion as well as extending the knowledge to a more general population rather than focusing on youth sports only.

Athlete Satisfaction & Leadership Behavior

Besides cohesion, one major topic investigated in sport settings is satisfaction. The topic received great attention not only in sports, but also in other domains like social, business or educational psychology. Accordingly, there are many theories trying to explain the concept and determining factors of satisfaction. One of the most popular is Maslow's (1943) pyramid of physiological and psychological needs, resulting in the highest satisfaction when the stage of self-actualization is reached. Also applying to athletic contexts is Locke's (1976) values based approached, which explains satisfaction by comparing one's actions to personal values. Although the concept of satisfaction including the basic theories might be quite straight forward, it is still necessary to narrow down a working definition for sport settings. This has been done by Chelladurai and Riemer (1997) who are defining athlete satisfaction as a positive affective state which results from a holistic evaluation of the structures, processes, and outcomes related to athletic experiences. This evaluation might include the satisfaction of basic needs proposed by Maslow (1943) or a simple comparison between one's expectations/ values and the perception of a certain situation. Based on this working definition and

several existing instruments to measure satisfaction in and outside sports, the Athlete Satisfaction Questionnaire (ASQ; Riemer, & Chelladurai, 1998) was developed. In comparison to the previous surveys, like the Scale of Athlete Satisfaction (Chelladurai, Imamura, Yamaguchi, Oinuma, & Miyauchi, 1988), the ASQ is a more comprehensive tool to assess various aspects of satisfaction within sport settings. The 15 subscales cover the dimensions of satisfaction with a) performance, b) leadership, c) team aspects, d) individual aspects and e) organization; they add up to a total of 56 items. Recently the scale has also been translated into German (Harenberg et al., in press), it was slightly modified to the given culture by eliminating two items concerning academic support services. However, the main structure of the questionnaire remained. Due to the length of the instrument several researches only used selected subscales according to the purpose of the respective study. Moreover, Chelladurai and Riemer (1997) suggests themselves a categorization into social/task and team/individual dimensions. For an overview see Table 1 in the appendix.

So far, several studies shave been conducted to explore the underlying factors of athlete satisfaction as well as relations to other outcome variables like performance, collective efficacy or team cohesion. Baker, Yardley and Cotè (2003) could show that athlete satisfaction was strongly depending on the behavior of their coaches. Analyses hereby showed a significant effect for all subscales of the CBS-S on satisfaction which was mediated by sport type (individual/team). Similar results were published before by Riemer and Toon (2001), who found that the perceptions rather than the preferences of elite tennis players were detrimental for an athlete's satisfaction. Especially the behaviors of democratic or autocratic decision making processes and social support showed great impact on several subscales of the ASQ.

Within athlete leadership, however, there has barely been any research. A first study was conducted by Eys, Loughead, and Hardy (2007) who compared athlete leadership dispersion with athlete satisfaction. Results indicated that the highest satisfaction depended on equally represented leadership functions (task, social, external) within a team, but not on the actual number of leaders. The latest study investigating satisfaction and athlete leadership was conducted by Paradis and Loughead (2013). They predicted that cohesion would mainly mediate the effects between behavior and athletes' satisfaction. To examine this relation the researchers differentiated between task- and/or social-oriented behaviors (task: Training and Instruction; social: Social Support; both: Democratic Behavior, Autocratic Behavior, Positive Feedback), task and

social cohesion as well as task- and socially-related satisfaction (individual & team). It was found that cohesion did indeed fully or partially mediate the effects of athlete leadership behavior on satisfaction. Saying this, it can be assumed that leadership only has an indirect impact on satisfaction when cohesion is taken into account. This is also supported by a previous study of Loughead and Carron (2002) who proposed that the Attraction to the Group dimension of task cohesion mediated the effects of leadership behavior on satisfaction of participants in exercise groups. Nevertheless, further research is needed to understand the triangular relation between athlete leadership behavior, cohesion and satisfaction with other populations than youth sports or exercise groups. There is no research yet investigating the single subscales of the Athlete Satisfaction Questionnaire in the context of athlete leadership.

In summary, although not much is known about the characteristics and behaviors of athlete leaders yet, they seem to play an essential role in the performance, and structure of a sports team. Athlete leaders do not only have a significant impact on the team atmosphere and cohesion, but also on individuals' satisfaction within that team. Just as the coach they have to act as a role model by showing a great working attitude and the absolute desire to win. Regardless of the situation they are expected to keep a positive attitude and remain respectful and honest. In the words of Oliver Kahn, athlete leaders are the "Stimmungsmanager" – the mood manager of a team, they need to observe and know their players, need to anticipate the situation and find the right answer to upcoming problems – and still build a bridge between the team and the staff members. The position of a team captain is complex and difficult and therefore needs to receive further attention of researchers and applied experts.

3 PURPOSE

Considering the important role of athlete leaders, the primary aim of this study was to further examine the leadership behavior of key players in elite sport teams and its effects on team cohesion and athlete satisfaction. Several subordinated aims were stated:

Firstly, actual behavior of key players was compared with perceived as well as preferred behaviors of their teammates. Based on former qualitative studies and the results of Loughead and Hardy (2005) it was expected that Positive Feedback, Social Support and Democratic Behavior would be the most preferred behavior dimensions shown by athlete leaders, whereas Autocratic Behavior would be least preferred (hypothesis 1). No clear expectations could be stated for Training and Instruction and Motivational Leadership Behavior. However, special attention was paid to the latter, since this subscale was newly integrated into the Leadership Scale for Sports.

Secondly, the relationships between actual or perceived leadership behavior and the perceptions of team cohesion and athlete satisfaction were investigated. Based on previous research (e.g. Vincer & Loughead, 2010) the following relationships between perceived leadership behavior and cohesion were expected: a) Training and Instruction as well as Social Support would be positively related to both dimensions of team cohesion (hypothesis 2), whereas b) Autocratic Behavior would relate negatively to social and task cohesion (hypothesis 3) and c) Democratic Behavior was expected to positively ralete to the Attraction to the Group - Task only (hypothesis 4). No hypothesis were drawn for the relationship between leadership behavior and specific subcategories of athlete satisfaction. However, based on research within coaches it can be assumed that Positive Feedback, Social Support and Democratic Behavior would relate positively to athlete satisfaction overall (hypothesis 5), whereas the opposite accounts for Autocratic Behavior (hypothesis 6).

Thirdly, it was examined whether discrepancies in the groups' (leader vs. team member) evaluation of leadership behavior would be influencing the satisfaction and perceived team cohesion. Respectively, lower scores for the outcome variables were expected the higher the discrepancies between the group ratings were (e.g. Riemer 2006; hypothesis 7).

Finally, further mediation analyses were expected to provide insight into the relation between confounding variables, like age or sport experience, leadership behavior and

the outcome variables. Based on the study by Paradis and Loughead (2010) it was furthermore predicted that task and social cohesion were mediating the effects of leadership behavior on athlete satisfaction. More specifically, task cohesion was expected to have a mediating role between task oriented behaviors (e.g. training & instruction) and the task-related subscales of the ASQ (e.g. individual and team performance; hypothesis 8), whereas social cohesion was supposed to mediate social-orientated behaviors (e.g. social support) and the satisfaction with social dimensions of the ASQ (e.g. team contribution social, team integration; hypothesis 9).

4 METHODOLOGY

4.1 Participants

The following criteria were chosen for recruiting the participants of the current study: 1) all teams had to be playing on a semi-professional or professional level, thus receiving some income from participating in the sport; 2) a minimum of 50% of all team members had to complete the questionnaires in order to get a representative sample of each team; 3) only male teams were considered due to the greater amount of semi-professional/ professional teams in the chosen sports.

According to those criteria six sport teams could be recruited, either playing on a professional (5) or semi-professional (1) level in Germany. Of those, two were soccer teams, both currently ranked in the midfield of the third national soccer league, and four were handball teams, three professional teams of the second national handball league and one semi-professional team of the forth league (regional). Thus, a total sample of 71 participants was included in the study, 22 soccer players and 49 handball players. Their age ranged between 17 and 36, with a mean age of 25.71 years (SD= 4.40). Players had an average experience of 18.07 years (SD= 5.35) in their sport and had played for about 3.35 years (SD= 3.25) for their current teams. Furthermore, 68 players were German and 3 English speaking.

4.2 Design & Instruments

Considering the instruments the present study was set up as an empirical quantitative research with multiple questionnaires, which were analyzed as a mixed-design approach (between-subject, within-subject and team level analyses). In total three different questionnaires were conducted as well as additional demographic data collected. Players were asked to fill in all questions asked but had the right to withhold personal information at any time.

Demographic Data
Prior to answering the questionnaires players were asked to indicate their age, sport, experience in the sport and their status in their team. Furthermore general information about their team leaders was collected. They were asked whom they considered to be a

leader on the team (captain, other team members or both) and how many of their fellow players occupied such a role as athlete leader on the specific team.

Leadership Scale for Sports

In order to adequately measure the three states of leadership behavior suggested by the multidimensional model of leadership, Chelladurai and Saleh (1980) developed the Leadership Scale for Sports, which is mainly validated to assess leadership behavior of coaches, but was also used for athlete leader behaviors (e.g. Vincer, & Loughead, 2010). To allow a better comparability across existing studies it seemed to be convenient to follow suit and conduct the LSS as well. It consists of the five dimensions: Training and Instructions, Positive Feedback, Social Support, Democratic Behavior and Autocratic Behavior. Whereas Training and Instruction is directly related to teaching sport specific skills and fostering the performance of athletes (e.g. "Explain to team members the techniques and tactics of the sport."), the dimensions Positive Feedback and Social Support are more focusing on reinforcing desirable behaviors within the team (e.g. "Compliment a team member for his/her performance in front of others.") and caring for the players' well-being (e.g. " Look out for the personal welfare of team members."). Democratic Behavior and Autocratic Behavior are dealing with the tendency to involve team members in decision making processes (e.g. "Get team members approval on important matters before going ahead.") and the degree of working independently from the team (e.g. "Work relatively independent of other team members."). These dimensions seem to be mutually exclusive at first but both are considered as separate scales which measure different aspects of behaviors. All items are rated on a 5-point Likert scale, ranging from never (1) to always (5) showing the behavior in question.

In the current study the LSS was used to access the perceived, as well as the preferred behavior of athlete leaders rated by the team members, and the self-perceived behavior rated by the athlete leaders themselves. Following the example of Vincer, and Loughead (2010), only marginal changes were made, e.g. the stem "My coach" was altered to "My athlete leader". Moreover, in order to assess the self-perception of the athlete leaders, the introduction "I am as an athlete leader..." was modified according to the original "As a coach I am...". Players were instructed to either rate the shown behavior ("...your behavior as an athlete leader"/ "...the behavior shown by your athlete

leader") or the preferred behavior ("the extent to which it should apply to your athlete leader").

Whereas the English version of the modified leadership scale of sport could already prove its reliability (Cronbach's Alpha between .74 and .88; Vincer, & Loughead, 2010) and validity as well as good fit indices to the original five factor model (Vincer, & Loughead, 2010), the German version (Linde, Preis, Pfeffer, & Alfermann, 2013) will be modified and verified in the scope of the current study.

Additionally to the traditional five subscales another six items were added. Those should measure motivational leadership according to the definition of Fransen et al. (2012) which was used in her study about leadership roles in sport teams. Example items are "My athlete leader is the most enthusiastic player on the field" and "My athlete leader motivates his/her team mates to push their limits".

Group Environment Questionnaire

Team Cohesion was assessed by using the Group Environment Questionnaire (GEQ; Carron, Widmeyer, & Brawley,1985; Kohäsionsfragebogen für Individual- und Teamsport – Leistungssport, KIT-L; Ohlert, 2012) which is composed of four subscales: Individual Attraction to the Group – Task (ATG-T); Individual Attraction to the Group – Social (ATG-S); Group Integration – Task (GI-T); and Group Integration – Social (GI-S), which add up to 18 items in total, and thus, provide a reasonable burden for the participants. The dimensions Individual Attraction to the Group – Task/ Social are reflecting a team member's attitude towards his/her involvement in team tasks and objectives (ATG-T, e.g. "I am not happy with the amount of playing time I get.") and one's feeling about his/her acceptance in and interactions with the group respectively (ATG-S, e.g. "Some of my best friends are on this team."). In contrast, the dimensions of Group Integration – Task/ Social are focusing on the perceived closeness and similarity within the group as a whole regarding group tasks (GI-T, e.g. "Our team is united in trying to reach its goals for performance".) or social matters (GI-S, "Our team would like to spend time together in the off season."). All items are rated on a 9-point Likert Scale (1 = strongly disagree, 9 = strongly agree), some are negatively worded and thus need to be reversed coded for the data analysis. The questionnaire is a widely used instrument which has already proven its validity and reliability in former research. Also the German translation could show satisfying quality criteria (Cronbach's Alpha between .74 and .78, Ohlert, 2011)

Athlete Satisfaction Questionnaire

The Athlete Satisfaction Questionnaire (ASQ; Riemer, & Chelladurai, 1998; translated into German by Harenberg et al., in preparation) was used to gain information about the multidimensional concept of athlete satisfaction. According to the purpose of the current study just ten out of the original fifteen subscales were used to collect data concerning the individual's satisfaction with his own performances and the satisfaction with the team as a whole. All subscales consisted of three to five items, which all start with "I am satisfied with..." and add up to a total of 37 items, thus providing a reasonable workload for the participants. The following subscales were used for the current study: 1) Personal Dedication, which is described as an athlete's satisfaction with his/her contribution to the team ("...the degree to which I do my best for the team"), 2) Team Integration - an athlete's satisfaction with their members' contributions to the team and the coordination of their efforts towards the team's tasks. ("...how the team works to be the best."), 3) Team Social Contribution, the satisfaction with how teammates contribute to an athlete as a person ("...my social status on the team.") and 4) Team Task Contribution, which is stated as the satisfaction with those actions by which the group serves as a substitute for leadership for the athlete ("...the extent to which teammates provide me with instruction."). Moreover, 5) the satisfaction with the ethical positions of their team mates was measured (ethics, "...the extent to which all team members are ethical."), as well as 6) the satisfaction with those behaviors which directly affect the individual, yet indirectly affect team development., like social support and positive feedback (Personal Treatment; "...the recognition I receive from my coach."). Also of interest were the satisfaction with 7) training and instruction behaviors shown by the coach (Training & Instruction; "...the training I receive from the coach during the season."), and 8) how he/she uses and maximizes the individual athlete's talents or abilities (Ability Utilization; "...the degree to which my abilities are used."). Finally, 9) the satisfaction with the team's level of performance (Team Performance; "...the team's win/loss record this season.") as well as 10) the individuals level of performance (Individual Performance; "...the degree to which I have reached my performance goals during the season."), including task performance, goal achievement and performance improvements, were collected. Participants were asked to rate all items on a 7-point Likert scale, between 1 being not satisfied at all and 7 being extremely satisfied. In line

with the original questionnaire an additional option "Does not apply" was offered. The ASQ is an established questionnaire to assess athlete satisfaction and could prove satisfying quality criteria in former studies (e.g. Cronbach's Alpha between .79 and .95, Riemer, & Chelladurai, 1998).

4.3 Procedure

In order to develop the questionnaire structure, established researchers in Europe and Northern America who were investigating the concept of athlete leadership in former studies were contacted. It was mentioned that the Leadership Scale in Sports (LSS) was commonly used also for athlete leaders, instead of only assessing the behavior of coaches. Moreover, discussions about the concept of motivational leadership led to a working definition of the term itself, that was used to develop appropriate items which were added to the original LSS. Afterwards, an English and German version of the used questionnaire was set up using SoSci Surveys, an online portal used for scientific research and business purposes. Besides, the same questionnaire was edited as an paper pencil version via Microsoft Office Word 2007. Both were pre-tested by fellow colleagues and a pilot-study was run. Minor changes were made accordingly. During that time different sport teams, engaging in soccer, handball, basketball, volleyball and ice hockey were contacted via email and telephone, based on the criteria stated before (semi-/ professional level, male) - of 142 teams who were approached, about 35 answered and 6 decided to join the study in the end.

In agreement with the team manager or coach all players were asked to fill in the online questionnaire (17 participants) or the paper pencil version (54 participants) of the same, which took about 20 minutes. All participating teams were already at the mid-season of their leagues and could thus access contemporary experiences with their athlete leaders. Before filling in the questionnaire participants had to sign an informed consent (see appendix 1). Moreover a definition of athlete leadership was given. In the scope of assessing the demographical information, all participants had to state the number of athlete leaders on the team, who those athlete leaders were and whether they consider themselves as an athlete leader (formal or informal). Accordingly, players were asked to either fill in the LSS as self-assessment (athlete leaders) or as "perceived" and "preferred" rating (team members) as well as the GEQ and ASQ.

4.4 Data Analyses

Before computing any analyses the data was screened for eventual outliers and normal distribution as well as for missing data. Descriptive statistics were calculated using SPSS 21.0. Results indicated a normal distribution of the data sets, with an exception of the satisfaction with ethical behavior ($Z = 1.43$, $p = .034$) and with external agents ($Z = 1.92$, $p = .001$). However, over 60 participants contributed to both subscales and thus, normality can still be assumed. Moreover, outliers were adjusted according to the principle stated by Field (2013), by using the principle of winsorizing.

In order to analyze the data the following steps were undertaken: Firstly, group comparisons were conducted a) by calculating a paired sample t-test to compare perceived and preferred leadership behavior and b) by computing independent t-tests between the athlete leaders and the team members (self-perception x perceived behavior; self-perception x preferred behavior).

Furthermore, regression analyses were calculated to predict a possible impact of leadership behavior on cohesion and satisfaction. Considered were hereby only perceived and self-perceived behavior since those can be viewed as the measures for actual behavior according to the Multidimensional Model of Leadership. Additionally, discrepancy scores were calculated (self-perception - perceived behavior; self-perception- preferred behavior) in order to investigate the influence of differences between the perceptions of athlete leaders and team members.

Finally, mediation analyses with leadership behavior as the predicting variable, cohesion as mediator and satisfaction as outcome variable were run. Integrated were only variables which showed significant results in the previous regression analyses. The analyses were run using the SPSS Macro PROCESS by Hayes (2014).

A two-tailed significance level of p = .05 was set for all conducted tests in order to account results as meaningful.

5 RESULTS

5.1 Descriptive Analysis

Sample Description - Amount of Athlete Leaders: Considering the status of a player, 31 people stated that they occupied a leader's role rather than a member's role (40) on their team. Of those in a leader position, 7 were holding a formal role (e.g. captain or vice-captain), and 24 an informal role (team representatives, player council). Comparing the estimated amount of athlete leaders ($M = 3.93$, $SD = 0.46$) with the actual number ($M = 5.33$; $SD = 2.07$), clear discrepancies can be observed.

Empirical Measures: Overall means and standard deviations were computed for the studied variables of Leadership Behavior, the subscales of the Group Environment Questionnaire as well as the Athlete Satisfaction Questionnaire.

The descriptive statistics for the three different versions of the Leadership Scale for Sports were calculated separately and are shown in table 5.1. Motivational Leadership ($M = 3.93$, $SD = 0.73$) and Positive Feedback ($M = 3.86$, $SD = 0.74$) seemed to be the most preferred behaviors, but only the latter was also shown by the athlete leaders accordingly ($M = 4.04$, $SD = 0.62$). As expected, Autocratic Behavior was preferred ($M = 2.25$, $SD = 0.74$) and shown ($M = 2.30$, $SD = 0.72$) the least.

Both dimensions of team cohesion resulted in high overall scores with task cohesion being slightly greater than social cohesion. The same accounts for Group Integration and Attraction to the Group. Detailed results can be seen in table 5.1.

Lastly, highest values for the Athletes Satisfaction Questionnaire could be determined for Personal Treatment ($M = 5.83$, $SD = 0.91$) and Personal Dedication ($M = 5.52$, $SD = 0.78$), whereas the lowest scores were observed for Individual Performance ($M = 4.25$, $SD = 1.22$) and Team Performance ($M = 3.97$, $SD = 1.36$). For a summary see Table 5.1.

Reliabilities

Due to the multilingual use of the questionnaires and the modifications made by the researcher, it was necessary to determine the reliabilities of the instruments before continuing with higher order analyses. Therefore, Cronbach's Alpha was calculated for the complete questionnaires and for all subscales individually.

Leadership Scale for Sports: In the current study three different versions were used to assess the leadership behavior. Thus a reliability analysis was run for each of those. Overall, Cronbach's Alpha ranged between .86 and .89 for the complete LSS versions. Furthermore, the subscales showed satisfying values for Cronbach's Alpha, with a minimum of $\alpha = .75$ and a maximum of $\alpha = .88$. Only the subscale Democratic Behavior failed to prove reliability with a Cronbach's Alpha between $\alpha = .53$ and $\alpha = .67$; however, former studies could already confirm the reliability of this measurement. All Cronbach's Alpha are presented in table 5.1.

Group Environment Questionnaire: The internal consistency according to Cronbach's Alpha could only be confirmed partly for the Group Environment Questionnaire in the current analysis. Although the subscales Attraction to the Group-Social ($\alpha = .74$), Group Integration-Task ($\alpha = .72$) and Group Integration-Social ($\alpha = .81$) showed good internal consistency, the subscale Attraction to the Group - Task ($\alpha = .49$) did not; additional alterations in the included items did not improve the latter. Still, the overall internal consistency of $r = .83$ for the Group Environment Questionnaire can be considered as eligible. However, the questionnaire has been used in previous research and could already prove satisfying quality criteria.

Athlete Satisfaction Questionnaire: For the current study only 10 complete subscales of the ASQ were used. All of those could reach a satisfying internal consistency, whereby Team Social Contribution showed the lowest ($\alpha = .70$) and Ability Utilization the highest score ($\alpha = .89$). The overall internal consistency of $\alpha = .95$ also confirms the quality of the used instrument.

5.2 Group Comparisons

A paired-sample *t*-test with repeated measures was computed to compare the perceived and preferred leadership behavior rated by the athlete leaders' team members. Significant differences could be found for the following subscales: Training and Instruction ($t_{(34)} = -3.36$, $p = .002$) with BCa 95% CI [-0.45; -0,11], Positive Feedback ($t_{(34)} = -2.98$, $p = .005$) with BCa 95% CI [-0.66; -0.15], Social Support ($t_{(34)} = -2.69$, $p = .011$) with BCa 95% CI [-0.48, -0.05], Democratic Behavior ($t_{(34)} = -4.96$, $p < .001$) with BCa 95% CI [-0.64, -0.28] and Motivational Leadership ($t_{(34)} = -5.08$, $p < .001$) with BAc 95% CI [-0.91, -0.41]. All of those indicate a tendency towards showing more

of the assessed behaviors. Although there was no significant difference reached for autocratic behavior, a negative tendency was observable.

In order to compare the perceived behavior of the team members with the self-perception of the athlete leaders *t*-tests with the group factor "status of leadership" (1= athlete leader; 2 = team member) were run. Significant differences were found for the subscales Positive Feedback ($t_{(67)}$ = 4.37, p < .001) with a BCa 95% CI [0.30; 1.03] and Social Support *($t_{(67)}$ = 2.74, p = .008)* with BCa 95% CI [0.11; 0.84]. Moreover, a marginal significance could be determined for Motivational Leadership ($t_{(67)}$ = 1.97, p = .057) with BCa 95% CI [-0.42; 0.58], suggesting that the athlete leaders perceived themselves as showing more of the assessed behaviors than their team mates did.

The same procedure was conducted to compare the self-perceptions of the athlete leaders with the preferred behavior stated by their team members. Unlike the former analysis would suggest, only significant results were found for Democratic Behavior ($t_{(63)}$ = -2.30, p = .025,) with a BCa 95% CI [-0.61; -0.05] and Motivational Leadership ($t_{(63)}$ = -2.28, p = .026) with BCa 95% CI [-0.73; -0.03]. Observing the mean values of those, a preference for showing more of the assessed behaviors can be assumed.

Finally, the dimensions of leadership behavior were controlled for confounding variables (age, experience in sport, years in the current team). Only a significant result for perceived Social Support behavior and year in the current team was detected ($t_{(42)}$ = 2.46, p = .018) showing a tendency towards a higher level of perceived Social Support for new players.

5.3 Correlations & Regression Analysis

Correlations: Multiple significant correlations were observed between the independent (leadership behavior) and dependent (cohesion/satisfaction) variables. They are displayed in Table 2-4 in the appendix.

Table 5.1: *Means, Standard Deviations, and Cronbach's α for the LSS; GEQ, and ASQ*

	Mean	SD	Cronbach's α
LSS: Self-Perception Training & Instruction	3.32	0.59	.77
LSS: Perceived by TM Training & Instruction	3.23	0.68	.78
LSS: Preferred by TM Training & Instruction	3.49	0.65	.75
LSS: Self-Perception Positive Feedback	4.0	0.62	.79
LSS: Perceived by TM Positive Feedback	3.41	0.85	.83
LSS: Preferred by TM Positive Feedback	3.86	0.74	.81
LSS: Self-Perception Social Support	3.57	0.71	.83
LSS: Perceived by TM Social Support	3.15	0.78	.82
LSS: Preferred by TM Social Support	3.41	0.77	.81
LSS: Self-Perception Democratic Behavior	3.30	0.60	.53
LSS: Perceived by TM Democratic Behavior	3.15	0.57	.67
LSS: Preferred by TM Democratic Behavior	3.61	0.52	.56
LSS: Self-Perception Autocratic Behavior	2.30	0.72	.77
LSS: Perceived by TM Autocratic Behavior	2.42	0.71	.76
LSS: Preferred by TM Autocratic Behavior	2.25	0.74	.77
LSS: Self-Perception Motivational Leadership	3.57	0.64	.82
LSS: Perceived by TM Motivational Leadership	3.28	0.71	.83
LSS: Preferred by TM Motivational Leadership	3.93	0.73	.88
GEQ: ATG-T	6.55	1.36	.49
GEQ: ATG-S	6.24	1.51	.74
GEQ: GI-T	6.59	1.40	.72
GEQ: GI-S	6.34	1.67	.81
ASQ: Individual Performance	4.25	1.22	.79
ASQ: Team Performance	3.97	1.36	.87
ASQ: Ability Utilization	4.86	1.35	.89
ASQ: Personal Treatment	5.83	0.91	.86
ASQ: Training & Instruction	5.31	0.99	.77
ASQ: Team Task Contribution	4.74	1.10	.84
ASQ: Team Social Contribution	5.40	1.08	.70
ASQ: Team Ethics	5.02	1.23	.84
ASQ: Team Integration	5.07	0.96	.85
ASQ: Personal Dedication	5.52	0.78	.74
ASQ: External Agents	4.75	1.53	--

Linear Regressions - LSS subscales & cohesion: Significant results were observed for a range of combinations (see Table 5 in the appendix). The most meaningful ones in accordance to the previously proposed aims will be reported. A significant influence was found for self-perceived Training and Instruction behavior on Attraction to the Group - Social ($R^2 = .30$, $p = .001$, $\beta = .57$) and Group Integration - Social ($R^2 = .18$, $p = .015$, $\beta = .42$), but not for task cohesion. Also self-perceived Positive Feedback behavior only predicted Group Integration-Social significantly ($R^2 = .14$, $p = .032$, $\beta = .37$). In contrast, self-perceived Democratic Behavior was found to significantly affect both dimensions of task cohesion (AGT-T: $R^2 = .14$, $p = .031$, $\beta = .38$; GI-T: $R^2 = .21$, $p = .007$, $\beta = .46$), whereas Autocratic Behavior was only negatively affecting Attraction to the Group - Task ($R^2 = .18$, $p = .014$, $\beta = -.43$). Finally, self-perceived Motivational Leadership Behavior was a significant predictor for the social dimensions of team cohesion (AGT-S: $R^2 = .20$, $p = .009$, $\beta = .45$; GI-S: $R^2 = .15$, $p = .026$, $\beta = .39$). No effects were found for Social Support.

Very similar results were obtained for perceived Leadership Behavior and cohesion. Training and Instruction Behavior was positively affecting both dimensions of social cohesion (AGT-S: $R^2 = .20$, $p = .005$, $\beta = .45$; GI-S: $R^2 = .14$, $p = .023$, $\beta = .37$), as well as Group Integration-Task ($R^2 = .22$, $p = .003$, $\beta = .47$). Positive Feedback only predicted Attraction to the Group - Social ($R^2 = .14$, $p = .020$, $\beta = .38$) significantly. Further, an impact of Social Support on Attraction to the Group - Social was found ($R^2 = .17$, $p = .011$, $\beta = .41$). Also, Motivational Leadership Behavior influenced Attraction to the Group - Social ($R^2 = .18$, $p = .009$, $\beta = .42$) just as Group Integration-Task ($R^2 = .13$, $p = .027$, $\beta = .36$) positively. No significant results were found for Democratic and Autocratic Behavior.

Linear Regressions - LSS subscales & satisfaction: Exploratory regression analyses were conducted. Again, the most noteworthy results are reported, for an overview see Table 6 in the appendix. Thus, highly significant effects were found for perceived Positive Feedback on Team Integration ($R^2 = .20$, $p = .004$, $\beta = .46$) as well as of perceived Social Support on Personal Treatment ($R^2 = .21$, $p = .004$, $\beta = .45$).

Furthermore, self-perceived Training and Instruction behavior predicted the satisfaction with the Personal Dedication ($R^2 = .30$, $p = .001$, $\beta = .55$), Team Contribution/task ($R^2 = .311$, $p = .001$, $\beta = .56$), as well as for Team Contribution/social ($R^2 = .22$, $p = .006$, $\beta = .47$). Moreover, there were significant effects for self-perceived

Positive Feedback on the satisfaction of Team Contribution/social (R^2 = .45, p < .001, β = .67), Ability Utilization (R^2 = .30, p = . 001, β = 0.55), Training and Instruction (R^2 = .27, p = .002, β = .52) and Personal treatment (R^2 = .22, p = .006, β = .47). Finally, self-perceived Motivational Leadership Behavior showed a positive impact on satisfaction with one's Personal Dedication (R^2 = .33, p < .001, β = 0.57), Personal Treatment (R^2 = .26, p = .002, β = .52), Training and Instruction (R^2 = .31, p = .001, β = .56) and the Team Contribution/social (R^2 = .33, p = .001, β = 0.57). Autocratic Behavior showed no significant influence on satisfaction.

Linear Regressions - Discrepancy Scores: Considering team cohesion, Group Integration-Social was negatively impacted by a discrepancy of self-perceived and other-perceived behaviors regarding Training and Instruction (R^2 = .30, p < .001, β = -.55). The same can be stated for the ASQ subscale of team performance (R^2 = .44, p < .001, β = -.66). The satisfaction with team performance was also significantly influenced by the discrepancies between other's perceived/preferred behavior regarding Training and Instruction (R^2 = .57, p < .001, β = .76) and Positive Feedback (R^2 = .43, p < .001, β = .65). The latter also showed a significant effect on the subscale of Team Integration (R^2 = .31, p < .001, β = .55). Moreover, the satisfaction with Team Integration was also influenced by the discrepancy between perceived/preferred ratings of Training and Instruction behaviors (R^2 = .33, p < .001, β = .58) and self-perceived/ perceived Democratic behavior (R^2 = .31, p < .001, β = .55). Concerning one's individual performance, a major impact on satisfaction was found for perceived/ preferred Training and Instruction behavior (R^2 = .17, p = .001, β = .41).

Controlling for confounding variables - age, playing experience and year in the team: In the following, the results of the regression analyses were controlled for possible underlying factors like age, sports experience and the years played in the current team. No significant relations between those and the outcome measure were found except for the satisfaction with one's Ability Utilization and experience in sports. To further investigate the relationship Satisfaction - Ability Utilization and Self-Perceived Positive Feedback, a partial regression with the control variable Experience in Sport was conducted, which again resulted in a respectively high association of r = .56 (p = .001). Nevertheless, the variable Experience in Sports was integrated in a mediation analyses which did not show an improvement of the previously stated regression model.

5.5 Mediation Analyses

Self-Perceived Leadership Behavior: Full mediations were found for Group Integration - Social, which mediated the effects of Training and Instruction behavior on the satisfaction with Ability Utilization ($R^2 = .31$, $p = .014$, $b = .17$, BCa 95% CI [0.00; .54]) and Team contribution/social ($R^2 = .41$, $p = .001$, $b = .20$, BCa 95% CI [-0.01;0.60]), as well as for the effects of Positive Feedback on Team contribution/task ($R^2 = .27$, $p = .008$, $b = .16$, BCa 95% CI [-0.00; 0.51]). Group Integration - Social partially mediated the relation between Positive Feedback and Ability Utilization ($R^2 = .40$, $p < .001$, $b = .13$, BCa 95% CI [0.00; 0.38]), and Team contribution/social ($R^2 = .59$, $p < .001$, $b = .15$, BCa 95% CI [0.01; 0.40]), as well as Motivational Leadership Behavior and Team Contribution/social ($R^2 = .49$, $p < .001$, $b = .17$ BCa 95% CI [0.01; 0.37]) (see figure 5.1). Group Integration - Task proved to be fully mediating the relations between Democratic Behavior and satisfaction with ethics ($R^2 = .55$, $p < .001$, $b = .26$, BCa 95% CI [0.10; 0.52]).

Other's perceived Leadership Behavior: Group Integration - Task was found to fully mediate the effects of Training and Instruction behavior on Team contribution/task ($R^2 = .30$, $p = .018$, $b = 17$ BCa 95% CI [0.02; 0.46]), Team Integration ($R^2 = .44$, $p = .001$, $b = .26$ BCa 95% CI [0.07; 0.52]) and Individual Treatment, whereby the latter was also mediated by Group Integration-Social ($R^2 = .39$, $p = 003$, $b_{GI-S} = -.14$ BCa 95% CI [-0.31; -0.02], $b_{GI-T} = .20$ BCa 95% CI [0.04; 0.46]). Lastly, Group Integration -Task also mediated the effects of Motivational Leadership Behavior Individual Treatment ($R^2 = .34$, $p = .003$, $b = .18$ BCa 95% CI [0.05; 0.34]) and Team Integration ($R^2 = .47$, $p < .001$, $b = .22$ BCa 95% CI [0.06; 0.46]), as well as Ethical behavior ($R^2 = .45$, $p < .001$, $b = .22$ BCa 95% CI [0.07; 0.45]).

Self- perceived
Positive Feedback

β = .67, p = .01

Satisfaction with
Ability Utilization

Group Integration
social

β = .96, p = .03

β = .22, p = .03

Self- perceived
Positive Feedback

Satisfaction with Team
Contribution / social

β = .73, p < .001

Group Integration
social

β = .96, p = .03

β = .22, p = . 004

Self- perceived
Motivational LS

β = .54, p = .008

Satisfaction with Team
Contribution / social

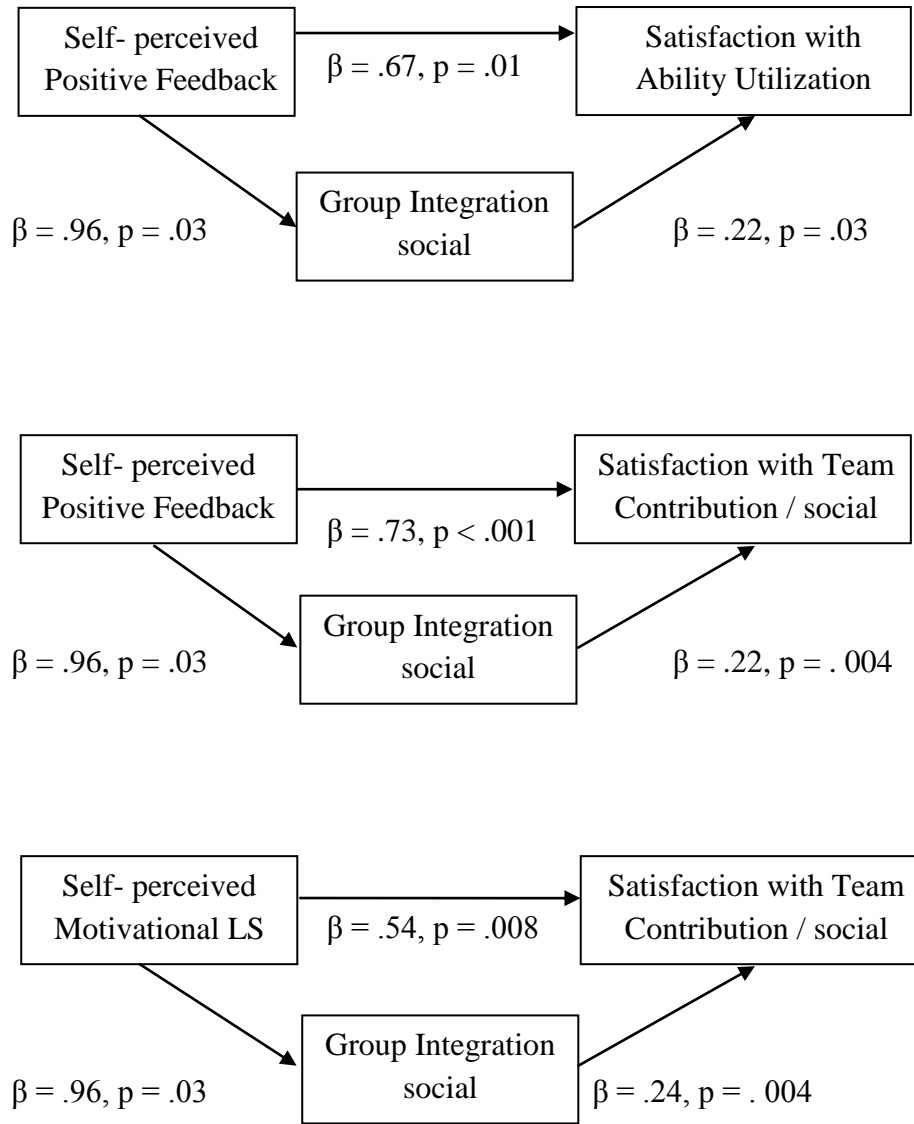Group Integration
social

β = .96, p = .03

β = .24, p = . 004

Figure 5.1:*Partial Mediations between Leadership Behavior, Cohesion & Satisfaction*

6 DISCUSSION

The purpose of the current study was to investigate the relation of athlete leadership behavior and its relation to cohesion and players' satisfaction. More specifically, the perceptions of athlete leaders and team members as well as their preferences were compared. It was examined which influence athlete leadership behavior may have on team cohesion and individual satisfaction. The derived results only partly confirmed the previously stated hypotheses. They are discussed separately on the basis of the existing literature in sports psychology as well as other related fields.

Firstly, results indicated that formal (e.g. team captains) and informal leaders (those who are not officially assigned) were equally considered equally in taking over leadership responsibilities. This confirmed Northouse (2001), who proposed that everybody could occupy a leaders' role, rather than being restricted to the members who were assigned leaders. Hence, both, informal and formal leaders, were taken into account for the analyses of this study. The remarkably higher number of informal leaders suggested a tendency towards shared leadership systems in the observed teams. This result confirms the study of Bucci et al. (2012), in which coaches mentioned to prefer group leadership systems rather than single captains. Indeed, shared leadership is a relatively new concept in the sports literature and has barely been studied in organizational psychology. It is defined as "an emergent team property that results from the distribution of leadership influence across multiple team members" (Carson, Tesluk, & Marrone, 2007) and therefore builds the counterpart to the traditional model of vertical or hierarchical leadership. Carson et al. (2007) are furthermore suggesting that shared leadership may lead to a higher performance of a group. In line with that are the results of Fransen et al. (2014) who proposed that shared leadership within sport teams is related to higher collective-efficacy believes, better team identification and better rankings. Although a more detailed investigation of shared leadership is beyond the scope of this study there is clear evidence for its existence in elite sport teams. It would be interesting to see which leadership function is carried out by formal and informal leaders and which ratio of athlete leaders is the most beneficial.

However, one problem that might occur when investigating informal or shared leadership is adequate data collection and the correct categorization of those leaders. In the current study there were, for example, remarkable differences identified concerning the amount of players who considered themselves an athlete leader in comparison to the

average estimation of the total amount of leaders in a team ("How many athlete leaders are on your team?"). This finding might be explained by the fact that different players might indeed only be peer leaders and overestimate their status in the group as a result of a self-serving bias.

6.1 Comparing the perceptions of athlete leaders & team members

Regarding the perceptions and preferences the current results can confirm assumptions made by former authors (e.g. Loughead, & Hardy, 2005) who proposed a clear preference for Positive Feedback behavior, Social Support and Democratic Behavior, while Autocratic Behavior was the least liked. The present study could extend the knowledge by adding the dimension of Motivational Leadership behavior. It was found, that Motivational Leadership and Positive Feedback were the most preferred and shown behaviors, whereas Autocratic Behaviors scored lowest overall amongst all participants. Slight differences were present concerning the preferences and perceptions of Democratic Behavior, which was rated third in importance but shown less. Also in line with previous finding was the low ranking of Training and Instruction regarding team members preferences, which is supporting the assumption that athlete leaders are expected to focus more on social aspects of team dynamics compared to coaches who are supposed to direct their behavior to task-related issues (Loughead, & Hardy, 2005; Price, & Weiss, 2013). However, since leadership is considered to be a dynamic concept it might be of interest to consider diverse situational factors. This has already been done in studies about coaching behavior. For example, Høigaard, Jones, and Peters (2008) published a study in which they had examined the preferences concerning coaches' leadership behavior in relation to prolonged periods of failure and success. Results showed a higher preference of leadership behaviors in unsuccessful times in general and differences between sport experience of the athletes.

Considering this trend it might be interesting to see whether similar changes occur for athlete leaders, Apitzsch (2009) could already show that there is a special need for socio-emotional leaders in critical situations like collective collapse. However, approaching the current results form a holistic manner, they are supporting the social-exchange concept of leadership, proposed by Hollander (1980). Thus, in order to achieve success, an athlete leader should be able to show expressive and instrumental behaviors according to the requirements of the situation.

Besides ranking the dimensions of the LSS, it was also investigated whether the self-perceptions of the athlete leaders match with the perceptions and preferences of their team members concerning the degree on which the behaviors were shown. The retrieved results suggest that team members expect generally higher degrees of all leadership behaviors than they perceive their athlete leaders to show those. The only exception was Autocratic Behavior, for which no significant effect but a negative trend could be observed. Moreover, clear differences were found between the perceptions of athlete leaders and team members. Athlete leaders tended to rate themselves higher on Positive Feedback, Social Support and Motivational Leadership behaviors than their fellow teammates did. Similar results have already been found by Horne and Carron (1985), who compared perceived and self-perceived leadership behaviors of coaches and found that the athletes rated their coaches significantly lower overall. This tendency is also reflected partially when comparing preferred behaviors of the players with the self-perceptions of athlete leaders, in which only the dimensions of Democratic and Motivational Leadership behavior stood out. It can be deduced from the current results that either athlete leaders may overrate their behavior or team members may act overly critical - however, the extent of the shown leadership behaviors does not match the expectations which are hold by the team members.

6.2 Leadership Correlates

Leadership Behavior and Cohesion
The analyses indicated a significant contribution of athlete leadership behavior on team cohesion and therefore support former findings by Vincer, and Loughead (2010), which suggest specific influences of perceived leadership behaviors on task and social cohesion. In contrast to the study by Vincer & Loughead (2010), here, no remarkable effects were found for Autocratic and Democratic Behavior. While at least the effects of Training and Instruction partly confirmed the previous research by showing a significant influence on social cohesion as well as on Group Integration - task, Social Support behavior only predicted Attraction to the Group - Task, as did Positive Feedback. Those differences might be explained by the characteristics of the participants who were older, more experienced and playing on a higher level in the current study. Høigaard et al. (2008) could already show that especially older athletes prefer more task-oriented behaviors.Young athletes on the other hand are rather seeking

for more positive feedback and social support by their leaders. Moreover, athlete leaders tend to show more social-oriented behavior than coaches do. This might also cause a decrease in appraisal and influence of those gestures (Loughead, & Hardy, 2005). However, the present study also investigated the category of Motivational Leadership which showed a medium-sized effect on Attraction to the Group-Social and Group Integration - Task. Considering the definition of motivational leadership behavior stated by Fransen at al. (2014), it is not surprising that an effect on both, task and social cohesion, could be found. It not only addresses the ability to influence the whole team's emotions in order to keep working and striving together in one direction, but also the support for individual players, who may feel downhearted and discouraged, thus creating a comfortable atmosphere within a team.

Furthermore, the present study extended previous findings by differentiating between others-perceived behaviors rated by team members and self-perceived behaviors of athlete leaders. Overall, the results seem to be very similar to those suggested by others-perceived leadership behaviors. Hence, Positive Feedback remained a predictor of Group Integration -Social, whereas Training and Instruction and Motivational Leadership behavior only showed significant effects on social cohesion. In line with Vincer an Loughead,(2010), Democratic Behavior was now found to significantly predict task cohesion and Autocratic Behavior showed the expected negative effect on Attraction to the Group-Task. No effect was found for Social Support. The differences between perceived and self-rated behaviors, which were already observable in the mere comparison of leadership behaviors, were again reflected in the influence on team cohesion. Due to higher overall effect-sizes for self-perceived behaviors, it might be assumed that athlete leaders were able to rate themselves more accurately than their fellow team members. However, team cohesion displays a very complex concept which is not only determined by leadership behaviors but rather by a range of factors, so that no definite statement can be made. Interesting is the finding that supposedly task-orientated behaviors predict rather social than task-related attributes of cohesion. This can underline the assumption made by Loughead and Hardy (2005) who concluded that athlete leaders might aim for group solidarity and integration whereas coaches focus more on performance enhancement. This assumption is supported by the results of the discrepancy analyses in which the difference between self-perceived and perceived Training and Instruction behavior had a negative effect on Group Integration-Social. Differences between the current study and former studies, in which clearer

results regarding task cohesion were found might also be attributed to the different level of competition (e.g. Vincer, & Loughead, 2010). Considering that the level in the present research was remarkably higher (semi-/professional level), a greater and more stable task cohesion might be given, regardless of leadership behaviors, whereas social cohesion is more vulnerable and thus also depends more on athlete leadership behaviors. This assumption is supported by research into task-/ego-orientation of elite athletes. Accordingly, Treasure, Carpenter, and Power (2000) report higher levels of both, whereas lower level athletes tend to show lower ego-orientation than elite athletes. They also compared the sport motives of athletes with either higher ego- or task-orientation and found that social aspects are more associated with the latter (Treasure, et al., 2000).

Leadership Behavior & Satisfaction

The present research also investigated the predictable value of leadership behavior on athlete satisfaction. It was remarkable that the self-ratings of the athlete leaders had a greater effect on the different dimensions of satisfaction than the perceived behavior rated by fellow team mates. First of all, this is supporting the above mentioned assumption about the higher accuracy of athlete leaders compared to teammates when describing athlete leadership behaviors. Moreover, leadership behaviors showed effects on both, social- and task-related satisfaction. Training and Instruction behavior hereby tended to predict more task-related satisfaction, whereas Social Support was more likely to predict socially-related aspects of satisfaction. However, this distinction is based on the single effect of perceived Social Support on Personal Treatment. In line with Chelladurai (2007), who suggest that Positive Feedback, just as Democratic and Autocratic Behavior may be considered either social- or task-oriented, self-perceived Positive Feedback shows a prediction on a range of both satisfaction categories. The same accounts for Motivational Leadership, for which the connotation was previously discussed. Overall it can be stated that the satisfaction with Ability Utilization, Training and Instruction, Task Contribution (task & social) were positively influenced by self-perceived Training and Instruction behavior, Positive Feedback and Motivational Leadership behavior. The latter two also predicted the satisfaction with Personal Dedication, as did Training and Instruction, and Personal Treatment. Summarized, those three aspects of athlete leadership explained athlete satisfaction the best within the spectrum of assessed leadership behaviors. Surprisingly, Autocratic Behavior predicted

neither a positive nor negative influence on athlete satisfaction. However, this is in line with existing literature. Paradis and Loughead (2010) found an effect for all subscales except for Autocratic Behavior, and concluded that this leadership style may not play a significant role for athlete leaders.

Nevertheless, even greater effects concerning satisfaction with Team Performance and Team Integration (amongst others) were found for discrepancy scores of those than for single dimensions of leadership behavior. Thus, especially differences between self-perceived and perceived as well as perceived and preferred behaviors seem to matter. However, those effects might be explained by the rather similar ratings of preferred and self-perceived behaviors. Those findings are supported by the hypothesis of Yukl (1971), who assumed that a person's satisfaction depended on the difference between one's preference and the experienced leadership behavior. Those assumptions are supported by the results of Horne and Carron (1985), who report a general influence of discrepancies between perceived and self-perceived behaviors of coaches. They further postulated that only Positive Feedback had an impact on the satisfaction with one's own performance, but a range of behaviors was associated to the satisfaction with the coaches' leadership. Contrary to those findings are the results of the current study, since only minor effects were found for Positive Feedback on one's individual performance. The main impact was rather attributed to perceived Training and Instruction and the discrepancies between preferred and perceived ratings of related behaviors. This finding is not just contrary to previous research but also to the majority of the results of the current study. One possible explanation might be an external attribution of one's performance in order to cope with relatively low performance satisfaction (Stoeber, & Becker, 2008). Moreover, Training and Instruction behavior might be more associated with poor performances which might in turn be the underlying causes for low satisfaction. This assumption would also explain the minor influence of Positive Feedback. Also, former researched focused more on behavior of coaches than on athletes, thus also differences in role expectations are likely. However, no definite reasons can yet be given to clarify the results of the current study. Future studies might focus on the extent and kind of Training and Instruction behaviors which is shown by athletes in order to influence the performance of the individuals and the whole team. It will also be necessary to find possibilities to decrease differences in the perceptions of leaders and followers, whereby leader education might play an important role.

Finally, the fact that autocratic leadership behavior seems to be less important and influential in athlete leadership settings is of interest. This assumption has already been postulated by Paradis and Loughead (2010) and is supported by the present findings. Those authors reported lowest scores of this dimension for formal and informal leadership behaviors, as well as its non-existing effects on leader efficacy and cohesion. Similar trends are observable in the current study, in which Autocratic Behavior was only negatively influencing the task-related attraction of a group but showed no effects on satisfaction.

6.3 Athlete Leadership Behavior - Cohesion - Satisfaction

Considering previous research (e.g. Loughead, & Carron, 2004), one can debate whether athlete satisfaction is directly influenced by leadership behavior. Those studies suggested that this relation was rather mediated by other variables, like cohesion. The current study also aimed to shed more light on this complex concept.

In fact, the present results are in line with those previous studies, and confirm the mediating role of cohesion. However, unlike a former study of Paradis and Loughead (2010), in which task cohesion mediated the effects of task-oriented behaviors on task-related satisfaction and social cohesion the effects of socially-oriented behaviors on social-related satisfaction, the current findings are not as easy to categorize. Thus, full mediations of Group Integration - social and Group Integration - task were found for several aspects of satisfaction without distinguishing between socially- or task-related subscales. Neither Attraction to the Group-social nor task acted as mediator between athlete leadership and satisfaction, indicating that a perception of closeness and similarity with one's team mates rather than a personal attitude towards the group objectives and interactions, are of importance for athlete satisfaction in the context of athlete leadership behavior.

In conclusion, the current study is suggesting that leadership behavior has only a predictive influence on satisfaction if cohesion is being considered. An exception of that pattern occurred for self-perceived Positive Feedback and Motivational Leadership behavior for which a direct effect on Individual Treatment and Team integration remained significant when including Group Integration as a mediator. This again reinforces the above mentioned notion which emphasized the importance of those two behaviors. Thus, an increase of the satisfaction of individual players in a team not only depends on either leadership behavior or cohesion, but rather on an interaction between

them both. Satisfaction might therefore be facilitated by increasing the feeling of closeness and similarity within the team on a social and task level, as well as by offering valuable positive feedback and acting as a motivational leader. However, an overload of those behaviors might also lead to an adaption of the target group or might even be harmful in case of social cohesion (Rovio, Eskola, Kozub, Duda, & Lintunen, 2009). Rovio et al. (2009) reported that a high degree of group think and the need of conformity were associated with a decrease of performance in ice hockey teams. The authors are reporting a lack of confidence of the athlete leaders to give adequate feedback or to communicate openly about problems within the team. Also, a group polarization in decision-making processes was obtainable. To avoid those reaction chains, an athlete leader needs to be well educated and aware of group processes in order to intervene directly. Motivational leaders are also considered to be able to influence the whole team's motivation and emotions in a way to perform optimally, therefore it would be interesting to see how longer lasting negative trends in performance can be avoided. This is where the concept of transformational leadership, as suggested by Bass (1991), might come into play, since both concepts seem to overlap at some points. Being able to motivate a group of people towards a common goal does not only require the skill to stir emotions, but also to direct them.

6.4 Limitations & Future research

As every study, this one is not free of limitations. First of all, the small sample size needs to be kept in mind. A ratio of 8.5% positive answers lay extremely beneath the expected 25%. This low ratio might be caused by the timing of the study, which was conducted during the winter break in the middle of the sport season. Teams might have had to face difficulties concerning their practice or competition schedule, were away in training camps or still on their break. In the future, those schedules need to be taken into account when planning research in elite sports. However, in order to collect valuable data, athletes need to first gain experiences with the team and their athlete leaders. Therefore conducting the study at the beginning of the season would not be possible. Also, the end of a season might cause problems since athletes' evaluations might highly depend on the teams' overall outcome rather than on actual behaviors. Besides those timing issues, several teams stated that they already participated in other studies or that they received simply too many research inquiries and therefore decided to decline those in general. Additionally, the issue of confidentiality and not being willing to cooperate

with a foreign institution were brought up. Thus, it needs to be considered how to approach elite sport clubs. For the current study, teams were contacted via emails which were either sent to the team managers, club chairman or the staffed office. In future it might be better to approach the coaches or even key players directly if possible. Besides, a personal meeting or phone call to clarify the general interest and responsibilities at the beginning may have been more successful.

Since this opportunity is not always given, the necessity of collecting data from elite sport teams needs to be reconsidered as well. For the current study it was assumed that athlete leaders may play a more salient role in professional than in recreational teams. However, research has yet to prove such a distinction. Thus, it might be interesting to see whether differences concerning preferences or actual leadership behaviors of athlete leaders can be found and whether the influence of those behaviors on satisfaction and team cohesion remains or changes. It seems reasonable to assume that the effects of social cohesion might increase on a lower sport level, since the motives for engaging in sport might be of a more social nature or enjoyment than of high goal-orientation. However, a trend to collect data from college, high school or recreational teams might indicate issues with accessing data from elite sport teams, which in turn increases the value of studies undertaken in that area.

Further restrictions concerning the data analyses had to be faced due to the small sample. It was of special importance to locate outliers or influential cases. Bootstraps had to be used for the linear regressions to ensure the quality of the data. It was also desisted from running a factor analyses which might have resulted in further knowledge regarding the existence of a separate Motivational Leadership dimension than integrated in the Leadership Scale for Sports. As mentioned above, some problems with the internal consistency determined by Cronbach's Alpha occurred, which could have been better understood when running an exploratory factor analysis. Concerning those low values of internal consistency for the GEQ subscale of Group Integration-task and the LSS scale Democratic Behavior the current results also need to be taken with caution. Although both scales proved their value many times before it needs to be kept in mind that the current low internal consistency might have led to the existing lack of results for AGT-T and Democratic Behavior. Nevertheless, a low internal consistency for the subscales of the GEQ have been reported quite frequently (e.g. Vincer, & Loughead, 2010) as the GEQ is measuring a very dynamic variable and therefore a low Cronbach's Alphas might not be surprising. However, the internal reliability tends to be even higher

compared to former studies including the initial quality check done during the development of the GEQ. The results are generally in line with the first German translation with the exception of Attraction to the Group-Task (Ohlert, 2012).

Additionally, the Cronbach's Alphas for Democratic and Autocratic Behavior seem to be especially interesting. While former studies using the German translation of the LSS indicated very low values for Autocratic Behavior, which often led to an exclusion of that scale, the current study's results show a trend in the opposite direction. On the other hand no significant statistical results were found concerning Autocratic Behavior which might be questioning the importance of this subscale in this study overall.

It is also noteworthy that all analyses were conducted on an individual rather than a team level. There has been a constant debate in previous research about an adequate method to evaluate team variables. Karreman, Dorsch and Riemer (2009), for example, claimed that group level effects should occur when group members are rating shared property of the group and even individual variables, which are affected by the team members, and therefore should be acknowledge in the process of data analyses. In contrast, Paradis and Loughead (2010) justify an individual approach by proposing that the calculated data for team cohesion and satisfaction still represents an individual perception of those, which is not only influenced by team members. Taking the characteristics of the present sample into account it seemed more appropriate to analyze the data on an individual level since not all members filled in the survey for each team. For future research it might be of interest to only collect data of in-tact teams and compare group and individual level outcomes.

Another restriction of the study might be the two-sided approach of the data collection. Participants were asked to either fill in the survey online or as a paper pencil version. Although this approach can be justified as it provides the participants with more flexibility and aimed to attract more teams to join the study at all. Anyhow, slight differences in the final results were observable between online and paper-pencil assessment with lower scores for the online survey in cohesion and satisfaction. This trend, however, might be explained by the current performance of the teams. When checking for the latest rankings of the team after data collection, a clear difference between the current positions was observable. In the future, it might therefore, be important to also assess the individual and the team performance in order to control for mediating effects. This could be done by only collecting statistical data via the sport

databases or by using specific questionnaires like the Performance Classification Questionnaire.

Another critical point of the present study is the assessment of athlete leaders. There are different approaches to determine athlete leaders within a team. The most straight forward way is to focus on formal leaders only, like team captains or player representatives. But since former research could already show the importance of informal leaders within a team (e.g. Fransen et al., 2014) this approach was not considered. In line with Paradis and Loughead (2010) players were asked to evaluate their status on their team themselves. To enable this, a definition of athlete leadership was given. Players could choose between a formal or informal role and state the total amount of leaders in a team. The latter question was integrated to control for high discrepancies between players who considered themselves a leader and the average amount of leaders perceived by team members. Another approach was provided by Eys et al. (2007) who asked their participants to list names for the diverse leadership roles within a team. Based on a 50% cut off value it was then decided, who could be considered to be a team leader. A similar approach was used by Fransen et al (2014). However, in order to carry out this procedure, an initial study phase would have been needed to determine the athlete leaders on a team beforehand. Another way would be to ask all players to fill out all questionnaires and to list names of the athlete leaders at the end of the survey. This method implies some ethical issues though. Firstly, the participants would have been asked to state their names which violated confidentiality and might have caused feelings of discomfort. Secondly, it would have been an additional burden to the already high amount of items. Thus, that approached was neglected. It might be interesting to see whether the inconsistency observed in the perceived and actual amount of leaders also causes differences in players' satisfaction and cohesion. However, due to the small sample size this analysis was abandoned in the current study.

Lastly, the concept of Motivational Leadership has not yet received enough attention to fully understand it. Thus, the additional subscale, which was integrated into the Leadership Scale for Sports, can only be considered a first attempt to quantify motivational aspects of leadership behavior. Although the proposed definition by Fransen et al. (2012) may be comprehensive and straightforward, it is the only one yet to be found in sports literature. Taking that into account, it seems likely that the Motivational Leadership was not yet measured to its fullest but rather a new instrument

needs to be developed and tested. However, the preliminary scale offered a first inspiring insight into the impact motivational leadership may have.

Besides studying the concept of motivational leadership, the motivational orientation of the players needs to be taken into account. Differences in ego- or task-orientation might require the key players to adapt their behavior (task-/social-orientation) to the individuals' needs and thus also influence their satisfaction and the overall team cohesion. Additionally, situational aspects should not be neglected. For example, leadership behavior might be dependent on the success or the poor performance of a team (e.g. Apitzsch, 2008, Fransen et al., 2012). Thus, it is recommended to study athlete leadership behavior and its underlying factors in more detail and in various populations. Lastly, further research is needed to understand the triangular relation between athlete leadership behavior, cohesion and satisfaction with other populations than youth sports. It is still necessary to spend some time on investigating the single subscales of the Athlete Satisfaction Questionnaire and its underlying factors.

6.5 Practical Implications

Besides theoretical knowledge this study offers a range of practical advices for sport teams and their leaders. Firstly, coaches and team members should be aware of the different functions athlete leaders might overtake in a sport team. Therefore, it is important to acknowledge that rather than having one person fulfilling all duties in a team it might be more effective to assign different roles to several players. In order to create an effective selection process, not only the characteristics and qualities of the single players need to be kept in mind, but also the expectations and preferences of the team members should be openly discussed. Clear role definitions therefore prevent discrepancies between leaders and followers and thus also negative effects on outcome variables like cohesion, satisfaction or performance. Additionally, it is suggested that leadership is rather a skill which can be learnt instead of a stable trait. Paying more attention to decision-making processes, the intra-team communication and supportive behaviors, as well as fostering the sense of responsibility, a hard working ethic and an encouraging attitude of key players are only a few examples. In the scope of the current study motivational behaviors and positive feedback were especially emphasized in order to foster players' satisfaction and the overall team cohesion. Coaches are therefore recommended to develop those particular skills in their players since strong leadership

has the potential to optimize team functioning, collective efficacy and therefore performance.

6.6 Conclusion

Overall, the current study offers a more profound insight into the behaviors and effects of athlete leadership in elite sport teams. A novel approach was used by gathering the self-perceived behaviors of athlete leaders and comparing those to the evaluations of their team mates. Moreover, the concept of Motivational Leadership was newly integrated into the Leadership Scale of Sports, hence allowing a quantitative assessment of related behaviors. The results suggest that athlete leadership behavior is in correspondence with Fiedler's Path-Goal Theory. Hence, an athlete leader can be considered as a facilitator of his team members, by being supportive, encouraging and providing feedback. Furthermore a clear emphasis on social-oriented behaviors and attributes of cohesion was determined. However, no distinction can be made for social or task-related aspects of satisfaction. Instead, both were equally predicted by an interaction of athlete leadership behavior and cohesion.

Lastly the present study confirmed the importance of motivational leadership and positive feedback, which were not only the most preferred but also the most shown behaviors. Contrary to that, autocratic behavior seems to play only a minor role within the concept of athlete leadership. For future research it is suggested to investigate the concepts of shared and motivational leadership in more detail.

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APPENDIX 1 - ASQ subcategories

Table 1: *Categorization of the ASQ Subscales (Riemer, & Chelladurai, 1998)*

Categorization	Subscale - Satisfaction with...
Individual Task Orientation	Individual Performance
	Training and Instruction
	Personal Dedication
	Ability Utilization
Individual Social Orientation	Personal Treatment
Team Task Orientation	Team Performance
	Team Contribution/ task
	Team Integration
	Strategy
	External Agents
	Team Ethics
Team Social Orientation	Team Contribution/ social

APPENDIX 2- Consent form & Questionnaire battery

Athlete Leadership Behavior and how it relates to perceived team cohesion and satisfaction of team members.

What is the study about?

Current research focuses on the coaches' role when investigating leadership behavior in sports, just a little is known about the influence of key players. That there is indeed a necessity of investigating athlete leadership was shown by former studies which compared coaches with key players and found significant discrepancies concerning leadership behaviors. Howsoever, it still remains to be seen which influence key players have on the team, thus, the upcoming study aims to further examine the leadership behavior of key players in team sports and its effects on outcome variables like team cohesion and athlete satisfaction.

What will your participation involve?

If you agree to volunteer for our study, you will be asked to complete an online- or paper/pencil - questionnaire, which will take approximately 20-30 minutes of your time. All of your responses will be kept confidential. You may choose not to participate, refuse to answer any questions, or withdraw from the study at any time with no penalty or effect on your future involvement in sports and / or physical activity. By participating in this study, you are also agreeing that your results may be used for scientific purposes, including publication in scientific journals, with your anonymity maintained. There are no known risks associated with participation in this research.

I have read and understood the accompanying information and I agree to take part in the investigation with the knowledge that I can withdraw at any time without giving a reason and doing so will not affect the treatment I receive. All questions have been answered to my satisfaction.

Place, Date   Signature

APPENDIX 3 - Correlation Tables

Table 2: *Correlations between Self-perceived Leadership Behavior, Cohesion & Athlete Satisfaction*

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Training/Instruction	.52**	.56**	.21	.02	.72**	.12	.57**	.20	.42*	.30	.33	.42*	.33	.42*	.56**	.47**	.33	.35*	.55**	.08
2. Positive Feedback		.38*	.34*	-.25	.63**	.29	.31	.10	.37*	.17	.07	.55**	.47**	.52**	.35*	.67**	.21	.15	.28	.07
3. Social Support			.30	-.10	.45**	.12	.22	-.01	.22	.02	.24	.20	.19	.29	.24	.18	.12	.17	.21	.23
4. Democratic Behavior				-.21	.47**	.38*	.12	.46**	.08	.17	.32	.15	.30	.43*	.17	.20	.39*	.32	.23	.30
5. Autocratic Behavior					-.01	-.42*	.03	-.16	-.06	.07	.11	-.05	-.12	-.06	-.29	-.28	-.06	-.23	-.02	-.10
6. Motivational Leadership						.13	.45**	.28	.39*	.32	.25	.48**	.51**	.56**	.45**	.57**	.33	.27	.57**	.07
7. Attraction to Group-Task							.18	.57**	.25	.48**	.51**	.43*	.44*	.42*	.47**	.40*	.57**	.52**	.24	.11
8. Attraction to Group-Social								.35*	.52**	.32	.23	.32	.33	.42*	.44*	.41*	.42*	.38*	.36*	.19
9. Group Integration-Task									.30	.40*	.58**	.37*	.54**	,32	.47**	.42*	.71**	.62**	.23	.46**
10. Group Integration-Social										.38*	.52**	.50**	.22	.26	.49**	.60**	.48**	.29	.20	-.08
11. Individual Perform.											.66**	.68**	.37*	.49**	.51**	.42*	.54**	.71**	.41*	.12
12. Team Performance												.56**	.34*	.28	.54**	.45**	.80**	.68**	.22	.18
13. Ability Utilization													.61**	.44*	.56**	.77**	.54**	.55**	.35*	.04
14. Personal Treatment														.58**	.37*	.60**	.39*	.43*	.33	.19
15. Training/Instruction															.32	.34	.31	.47**	.35*	.16
16. Team Contribution/ T																.62**	.70**	.70**	.39*	.18
17. Team Contribution/ S																	.60**	.50**	.35*	.08
18. Team Ethics																		.70**	.31	.29
19. Team Integration																			.24	.42*
20. Personal Dedication																				.08
21. External Agents																				

*. $p < 0.05$; **. $p < 0.001$

Table 3: *Correlations between Perceived Leadership Behavior, Cohesion & Athlete Satisfaction*

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Training/Instruction	.62**	.49**	.27	.28	.68**	.21	.45**	.47**	.37*	.39*	.43**	.07	.35*	.13	.33*	.13	.41**	.42**	.35*	.27
2. Positive Feedback		.56**	.18	-.03	.64**	.12	.38*	.29	.24	.24	.33*	.13	.30	.24	.41*	.20	.32	.46**	.32*	.31
3. Social Support			.25	-.01	.62**	.11	.41*	.21	.15	-.07	.13	.18	.45**	.10	.19	.14	.12	.12	-.04	.14
4. Democratic Behavior				.15	.28	.24	.22	.09	-.12	.07	-.03	.17	.03	.10	.24	.23	.22	-.03	.18	.34*
5. Autocratic Behavior					.12	-.29	.06	-.09	-.13	.19	.04	.08	.02	-.14	-.14	-.13	-.14	-.10	.27	-.05
6. Motivational Leadership						.08	.42**	.36*	.08	.29	.29	.20	.40*	.23	.31	.16	.39*	.44**	.44**	.26
7. Attraction to Group- Task							.24*	.57**	.09	.28*	.47**	.24	.42**	.35**	.43**	.39**	.47**	.47**	.10	.31*
8. Attraction to Group - Social								.48**	.52**	.24	.23	.30*	.31*	.33**	.42**	.28*	.35**	.37**	.22	.13
9. Group Integration-Task									.31*	.32**	.55**	.14	.51**	.27*	.52**	.28*	.67**	.68**	.17	.47**
10. Group Integration-Social										.32*	.36**	.18	.10	.14	.33**	.27*	.43**	.24	.17	-.02
11. Individual Perform.											.56**	.44**	.24	.34**	.37**	.34**	.40**	.54**	.50**	.21
12. Team Performance												.34**	.37**	.28*	.44**	.44**	.59**	.64**	.20	.33**
13. Ability Utilization													.43**	.39**	.44**	.69**	.23	.24	.36**	.10
14. Personal Treatment														.41**	.44**	.46**	.31*	.41**	.10	.20
15. Training/Instruction															.43**	.15	.29*	.46**	.28*	.14
16. Team Contribution/ T																.49**	.64**	.66**	.30*	.34**
17. Team Contribution/ S																	.42**	.28*	.23	.30*
18. Team Ethics																		.64**	.29*	.34**
19. Team Integration																			.25*	.42**
20. Personal Dedication																				.16
21. External Agents																				

*. $p < 0.05$; **.$p < 0.001$

Table 4: *Correlations between Preferred Leadership Behavior, Cohesion & Athlete Satisfaction*

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Training/Instruction	.59**	.50**	.50**	.09	.70**	.12	.31	.24	.38*	.13	.14	-.19	.26	.07	.16	-.07	.29	.30	.15	.01
2. Positive Feedback		.57**	.52**	-.12	.65**	.03	.37*	.21	.33*	-.10	-.06	-.20	.10	-.03	.21	-.03	.36*	.10	.16	.19
3. Social Support			.52**	.26	.40*	-.01	.44**	.20	.25	.01	.08	.02	.36*	.30	.27	-.15	.28	.30	-.02	-.00
4. Democratic Behavior				-.05	.42*	.24	.28	-.01	.05	-.21	-.09	.07	.23	.08	.05	.09	.16	-.13	-.04	.13
5. Autocratic Behavior					-.23	-.30	-.14	-.06	-.20	.27	.11	.16	.09	-.12	-.04	-.14	-.03	.13	.30	.01
6. Motivational Leadership						.06	.36*	.20	.44**	.02	-.01	-.23	.08	-.08	.17	-.05	.48**	.18	.06	-.03
7. Attraction to Group-Task							.24*	.57**	.09	.28*	.47**	.24	.42**	.35**	.43**	.39**	.47**	.47**	.10	.31*
8. Attraction to Group-Social								.48**	.52**	.24	.23	.30*	.31*	.33**	.42**	.28*	.35**	.37**	.22	.13
9. Group Integration-Task									.31*	.32**	.55**	.14	.51**	.27*	.52**	.28*	.67**	.68**	.17	.47**
10. Group Integration-Social										.32*	.36**	.18	.10	.14	.33**	.27*	.43**	.24	.17	-.02
11. Individual Perform.											.56**	.44**	.24	.34**	.37**	.34**	.40**	.54**	.50**	.21
12. Team Performance												.34**	.37**	.28*	.44**	.44**	.59**	.64**	.20	.33**
13. Ability Utilization													.43**	.39**	.44**	.69**	.23	.24	.36**	.10
14. Personal Treatment														.41**	.44**	.46**	.31*	.41**	.09	.20
15. Training/Instruction															.43**	.15	.29*	.46**	.28*	.14
16. Team Contribution/ T																.49**	.64**	.66**	.30*	.34**
17. Team Contribution/ S																	.42**	.28*	.23	.30*
18. Team Ethics																		.64**	.29*	.34**
19. Team Integration																			.25*	.42**
20. Personal Dedication																				.16
21. External Agents																				

*. $p < 0.05$; **.$p < 0.001$

APPENDIX 4 - Regression Analyses

Table 5: *Regression Analyses LSS x GEQ*

	R^2	F	β	t	p
Perceived LSS TI x GEQ					
Attraction to the Group-social	.20	8.95	.45	2.99	.005*
Group Integration-task	.22	10.05	.47	3.17	.003*
Group Integration-social	.14	5.66	.37	2.38	.023
Perceived LSS PF x GEQ					
Attraction to the Group-social	.14	5.94	.38	2.44	.020
Perceived LSS SS x GEQ					
Attraction to the Group-social	.17	7.20	.41	2.68	.011
Perceived LSS ML x GEQ					
Attraction to the Group-social	.18	7.12	.42	2.78	.009
Group Integration-task	.13	5.32	.36	2.30	.027
Self-perceived LSS TI x GEQ					
Attraction to the Group-social	.32	14.74	.57	3.84	.001*
Group Integration-social	.18	6.59	.42	2.57	.015
Self-perceived LSS PF x GEQ					
Group Integration-social	.14	5.02	.37	2.24	.032
Self-perceived LSS DS x GEQ					
Attraction to the Group-task	.14	5.12	.38	2.26	.031
Group Integration-task	.21	8.35	.46	2.89	.007
Self-perceived LSS ML x GEQ					
Attraction to the Group-social	.20	7.73	.45	2.78	.009
Group Integration-social	.15	5.45	.39	2.33	.026
Self-perceived LSS AS x GEQ					
Attraction to the Group-task	.18	6.78	-.42	-2.60	.014

*. $p < 0.005$; **.$p < 0.001$

Table 6: *Regression Analyses LSS x ASQ*

	R^2	F	β	t	p
Perceived LSS TI x ASQ					
Individual performance	.16	6.62	.39	2.57	.014
Team performance	.19	8.27	.43	2.88	.007
Personal treatment	.12	4.88	.35	2.21	.034
Team Contribution/ task	.11	4.41	.33	2.10	.043
Ethics	.17	7.41	.41	2.72	.010
Team integration	.18	7.62	.42	2.76	.009
Personal dedication	.12	5.12	.35	2.26	.030
Perceived LSS PF x ASQ					
Team performance	.10	4.28	.33	2.07	.046
Team contribution / task	.17	7.327	.41	2.71	.010
Team integration	.20	9.44	.46	3.07	.004*
Personal dedication	.10	4.20	.32	2.05	.048
Perceived LSS SS x ASQ					
Personal treatment	.21	9.32	.45	3.05	.004*
Perceived LSS ML x ASQ					
Personal treatment	.16	6.68	.40	2.59	.014
Ethics	.15	6.36	.39	2.52	.016
Team Integration	.19	8.42	.44	2.90	.006
Self-perceived LSS TI x ASQ					
Ability utilization	.18	6.70	.42	2.59	.015
Training & Instruction	.18	6.74	.42	2.60	.014
Team contribution/ task	.31	14.00	.56	3.74	.001*
Team contribution/ social	.22	8.80	.47	3.00	.006
Team integration	.13	4.45	.35	2.11	.043
Personal dedication	.30	13.11	.55	3.62	.001*
Self-perceived LSS PF x ASQ					
Personal treatment	.22	8.75	.47	2.96	.006
Ability utilization	.30	13.27	.55	3.64	.001*
Training & Instruction	.27	11.25	.52	3.35	.002*
Team contribution/ task	.13	4,45	.35	2.11	.043
Team contribution/ social	.45	25.73	.67	5.07	.000**
Self-perceived LSS DS x ASQ					
Training & Instruction	.19	7.17	.43	2.68	.012
Ethics	.15	5.40	.39	2.32	.027
Self-perceived LSS ML x ASQ					
Personal treatment	.26	11.10	.51	3.33	.002*
Ability Utilization	.23	9.27	0.48	3.05	.005
Training & Instruction	.31	13.844	.56	3,72	.001*
Team contribution/ task	.20	7.92	.45	2.81	.008
Team contribution/ social	.33	15.03	.57	3.88	.001*
Personal dedication	.33	15.16	.57	3.89	.000**

*. p < 0.005; **.p < 0.001