



Do perceived justice and need support of the coach predict team identification and cohesion? Testing their relative importance among top volleyball and handball players in Belgium and Norway

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ARTICLE INFO

Article history:

Received 10 March 2010

Received in revised form

17 September 2010

Accepted 23 September 2010

Available online 29 September 2010

Keywords:

Organizational justice
Social identity approach
Coach–athlete relation
Leadership
team sport

ABSTRACT

Objectives: Based on findings in organizational psychology, the aim of the present study was to test the relevance of perceived justice and need support of the coach in team sports. Specifically, two studies examined their relation with athletes' team identification and team cohesion.

Design: Two cross-sectional, questionnaire studies conducted after a midseason game day.

Methods: In study 1, Belgian top level female volleyball players ($N = 56$; $M = 22.33$) and male handball players ($N = 35$; $M = 23.59$) completed web-based questionnaires assessing athletes' perceived justice and need support of the coach and their team identification and cohesion. In study 2, Norwegian top level female handball players ($N = 110$; $M = 22.8$) filled in mail surveys assessing athletes' perceived distributive and procedural justice of the coach and their team identification and cohesion.

Results: Both studies used Structural Equation Modeling (SEM) to analyze the data. In line with our expectations both overall perceived justice and need support by the coach, positively predicted athletes' team identification ($p < .05$). Study 2 demonstrated that procedural justice and not distributive justice predicts team identification ($p < .05$). In addition, team identification positively predicted athletes' task and social cohesion ($p < .001$) and mediated the relation between procedural justice and both forms of cohesion.

Conclusions: These findings clearly indicate the importance of both perceived justice and need support for top level team athletes from different cultural settings. Coach-related procedural justice in particular seems to be crucial for elite athletes' team identification and cohesion.

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The relationship with the coach is usually regarded as a crucial factor in athletes' general development (Jowett & Cockerill, 2002). Previous research has shown that the quality of the interpersonal relationship with the coach is a key determinant of athletes' satisfaction with the coach, their intrinsic motivation and their performance (Chelladurai, 1990; Mageau & Vallerand, 2003; Riemer & Chelladurai, 1995). Although the coach–athlete relationship has been studied almost exclusively in individual sports, its importance has been acknowledged in all kinds of sports. However, it is doubtful whether conclusions about the coach–athlete relationship in individual sports can be transferred to

team sports. For instance, the role of a coach is very different in an individual sport as compared to a team sport (Alfermann, Lee, & Würth, 2005). So far, the literature on team sports has concentrated on topics such as task and social cohesion, whereas little is known about the specific influence of the coach–athlete relationship on the functioning of athletes in teams.

Jordan, Gillentine, and Hunt (2004) highlighted the fact that sport teams share many of the characteristics of other types of organizations. Sport teams can be viewed as organizations in which the coaching staff serves as the management and athletes as the workforce, who have to work together for a shared goal. Moreover, in team sports the coach is appointed by the board of the club and is in command of the sportive aspects of the club (e.g., a sort of middle management between the board and the players). By contrast, in individual sport settings the coach is usually chosen by the athletes themselves and can be considered more as an associate of the athletes. Consequently, the coach–athlete relationship in team sport settings is different

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than in individual sport settings, but quite comparable with the manager–employee relationship in business settings.

In business settings not all employees are treated alike, as managers have to distinguish between employees in terms of functions, status, etc. This differentiation leads to concerns about a fair treatment (Colquitt, Greenberg, & Zapata-Phelan, 2005). Consequently, employees' perceptions of their fair treatment, usually referred to as organizational justice, take an important position within the disciplines of management and organizational psychology (Jordan et al., 2004).

Organizational justice was conceptualized by Greenberg (1990) as a theory grown from attempts to describe and explain the role of fairness in the workplace. Three subtypes of subjective fairness perceptions were proposed: distributive justice, procedural justice and interactional justice (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). First, distributive justice focuses on the fairness of outcome distributions (Greenberg, 1987). Playing time, and assigned position are typical examples of outcomes in team sports (Jordan et al., 2004).

Second, procedural justice refers to the fairness of the process by which outcomes were determined (Lind & Tyler, 1988). In a sport context, an athlete may be dissatisfied with the selected team captain. However, if the procedures used to select the captain are perceived as fair, the athlete is more likely to accept the final decision (Jordan et al., 2004).

Third, interactional justice is assumed to consist of two subcomponents: interpersonal and informational justice (Greenberg, 1993). Interpersonal justice reflects the degree to which people are treated with politeness, dignity, and respect by the authorities that are involved in executing the procedures to determine the outcomes. Informational justice focuses on the explanations that convey information about why procedures were used in a certain way or why outcomes were distributed in a certain fashion (Colquitt et al., 2001). In team sports, explaining the criteria that will be used to select starting players can increase the likelihood of all team members accepting the final decisions as fair.

Previous research in business contexts has demonstrated that perceptions of the different facets of organizational justice often influence the behaviors, attitudes, and performance of employees. More specifically, perceptions of workplace fairness were associated with cooperation (De Cremer & van Knippenberg, 2002), commitment (Ambrose & Schminke, 2009), increased task performance (Williams, 1999), and increased group performance (Colquitt, Noe, & Jackson, 2002).

It should be noted that research in business settings has typically not focused on leaders as sources of justice (with exception of the more recent focus on interactional justice) (van Knippenberg, De Cremer, & van Knippenberg, 2007). As a result, there is no firm empirical base for conclusions regarding the role of the perceived distributive and procedural fairness of the leader. In order to explain this gap in the literature, van Knippenberg et al. (2007) suggested that both distributive and procedural justice were mostly treated as a systematic or institutionalized part of fairness (i.e., the organization as the major source of decisions and procedures) and less as an aspect of leadership. In this respect, a team sport setting differs from a business setting. Because the coach of an elite sport team has control over the sportive facet of the club, he/she is in charge of the sportive outcomes and the procedures that were followed to come to these outcomes. Consequently, the perception of his/her distributive and procedural justice will be of vital importance for team athletes. Therefore, we assume that effects of leader's justice would be particularly obvious in elite team sport contexts.

Considering that no empirical research on the impact of organizational justice of the coach on athletes' functioning in team sports has been performed so far, this research aims at introducing

organizational justice of the coach in team sport settings. We performed two studies to examine the relationship between organizational justice on the one hand and team identification and team cohesion (Haslam, 2004) on the other hand. Those two variables are known to be crucial for group-oriented behavior (e.g., cooperative behavior, task performance), which is generally established as a key factor to achieve an outstanding performance in team sport settings.

The Social Identity Approach (SIA: Haslam, 2004) is the most influential social–psychological theory on inter- and intragroup behavior, incorporating both Social Identity Theory (SIT: Tajfel & Turner, 1979) and Self-Categorization Theory (SCT: Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). SIA makes a distinction between personal identity and social identity. Personal identity refers to the self as a unique individual (Haslam, 2004), while social identity refers to the self as an interchangeable group member (Tajfel 1972).

SCT assumed that the self-categorization process (i.e., the process of perceiving the self as an interchangeable member of a category) is the cognitive process associated with social identity. Consequently, when an athlete identifies with the team his social identity predominates, which will lead to more intergroup behavior. Turner (1982) argued that the 'switching on' of social identity is the cognitive mechanism that makes group behavior possible. In other words group behavior is most likely when athletes identify with their team and see themselves as interchangeable group members.

Work group and organizational identification have been found to be positively related with group commitment (Ellemers, Spears, & Doosje, 1997), and group performance (i.e., through social compensation) (Hopkins, 1997). Research in sport settings has focused on fan identification. For example, Wann, Ensor, and Bilyeu (2001) demonstrated that team identification of fans was strongly linked with the intrinsic motivation to follow their team.

As these results clearly demonstrate the positive impact of team identification on employees' and fans' attitudes and behaviors, it is important to examine the determinants of their team identification. Recent research by Olkkonen and Lipponen (2006) examined the links between justice perceptions, and work-unit identification in business settings. They demonstrated that supervisor-focused justice was positively related to work-unit identification. These findings are in line with the group engagement model, which stated that justice perceptions should affect organizational identification given the positive social identity-relevant information that justice communicates to individuals (Tyler & Blader, 2003). Transferred to team sport settings this would mean that coach-related justice was linked to team identification.

In spite of the similarities between team sport and business settings, identification has not been examined in a team sport context. On the other hand, the closely related concept of team cohesion has been extensively studied and is generally acknowledged as a crucial concept determining group behavior in sport settings (Bray & Whaley, 2001; Heuzé, Bosselut, & Thomas, 2007). Moreover, a meta-analytic survey only accounting sport research revealed a moderate to large relationship between cohesion and performance ($effect\ size = .66, p < .03$; Carron, Colman, Wheeler, & Stevens, 2002).

Team cohesion can be defined as "a dynamic process which is reflected in the tendency for a group to stick together and to remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs" (Carron, Widmeyer, & Brawley, 1985). Carron and his colleagues proposed a hierarchical model of team cohesion in sport settings. This model differentiated team cohesion into an individual component (i.e., the individual's perceptions about personal motivations acting to retain him or her in the group) and a group component (i.e., the individual's perceptions about the closeness, similarity, and bonding within the group as a whole). Both components are further differentiated into a task and a social subcomponent. Task cohesion emerges when the

group sticks together around the task it has to perform, while social cohesion emerges when the group sticks together around social functions (Carron et al., 1985).

As elite sport teams are judged on the basis of their team performance, we are especially interested in the functioning of the group as a whole. Furthermore, Widmeyer, Brawley, and Carron (1992) suggested that the group-task subcomponent would have the strongest relationship to team performance. As a consequence, we decided to focus on the group element of Carron's cohesion model.

Team cohesion is closely related with team identification. For instance, Jackson and Smith (1999) demonstrated correlations ranging from .42 to .78 between group cohesion scales and social identity scales. However based on the definitions found in the literature (Haslam, 2004; Henry, Arrow, & Carini, 1999), we assume that they are independent concepts that should be differentiated. Based on SIA, Dutton, Dukerich, and Harquail (1994) stated that the perception of a shared categorical identity (i.e., team identification) creates an in-group bias, which leads to intragroup cohesion through the accentuation of perceived similarities with other group members. This article supports our assumption that identification is the fundamental, underlying process and team cohesion is the behavioral consequence. For team athletes who identify themselves with their team, team cohesion is a logical consequence.

Based on these results, the present research aimed to examine the relationship between perceived justice on the one hand and team identification and team cohesion on the other hand. We investigated this relationship from the viewpoint of two different conceptual approaches. First, in order to really understand the power of organizational justice in team sport settings, we need to demonstrate that justice is more than or at least as important to individuals as other well-known sport psychological variables (Ambrose & Arnaud, 2005). Therefore, study 1 did not focus on comparing one type of justice with another, but rather compared the impact of overall justice on team identification and cohesion with the impact of other concepts in the team sport setting, such as basic need support derived from Self-Determination Theory (SDT, Deci & Ryan, 2000; Ryan & Deci, 2000). Second, the findings of Cohen-Charash and Spector's (2001) meta-analysis supported the need for differentiating several dimensions of justice. Consequently, study 2 distinguishes between distributive and procedural justice and compared the independent impact of both forms of justice on team identification and team cohesion.

Study 1

Following the recommendations of Ambrose and Arnaud (2005), we decided to bring organizational justice and SDT together in study 1. Previous research showed that organizational justice and SDT were related (van Prooijen, 2009; van Prooijen, van den Bos, & Wilke, 2004). However we focused not on the interrelations between organizational justice and SDT. Our main aim was to compare their influence on athletes' team identification and team cohesion.

Recently, research guided by SDT has focused on the social-contextual conditions that facilitate or hinder the natural processes of self-motivation and healthy psychological development (Ryan & Deci, 2000). SDT assumes three innate psychological needs, more specifically the need for autonomy, competence and relatedness. First, the inherent need for autonomy is fulfilled when people perceive themselves as the origin of their choices and decisions, and they act in accord with their integrated sense of self (Adie, Duda, & Ntoumanis, 2008). For example, if athletes have the feeling they have some voice in the working out of their training programs, their need for autonomy will be satisfied. Second, competence concerns an individual's need to feel a sense of mastery through effective interaction within their environment

(Adie et al., 2008). A team athletes' need for competence is satisfied when he perceives his contribution as valuable for the team. The third need, relatedness, refers to the desire to feel connected to others, to love and care, and to be loved and cared for (Deci & Ryan, 2000). When team athletes feel connected with their teammates and coach, their need for relatedness is satisfied.

Recent studies in team sports showed that need supporting contexts or climates (i.e., social contexts that facilitate satisfaction of the three basic needs) positively influence the quality of athletes' subjective vitality (Adie et al., 2008; Reinboth & Duda, 2006), their psychological and physical well-being (Reinboth, Duda, & Ntoumanis, 2004), and their self-determined motivation (Amorose & Anderson-Butcher, 2007).

From these results we can conclude that the context has an important impact on athletes' need satisfaction, which in turn positively influenced their attitudes and behaviors. In addition, the environment and the climate in which sport teams operate are strongly influenced by the coach (Reinboth & Duda, 2006). More specifically, a need-supportive coaching strategy (i.e., a strategy to construct a climate that supports the basic needs) predicted an increased satisfaction of the team athletes' basic needs (Reinboth et al., 2004).

Coaches can support the basic needs of their athletes in different ways. First, a coach fosters the autonomy satisfaction by giving athletes' choices and options, providing rationales for requested behaviors, and encouraging self-regulation (Reinboth et al., 2004). Second, the coach can enhance the sense of competence by developing evaluation criteria based on self-referenced improvement (Reinboth et al., 2004). Third, to realize the need of relatedness a coach must take care of the athlete as a person and not only as a performing player (Reinboth et al., 2004).

In the first study we attempt to link three prominent theories from the domain of social psychology and apply them to coaching in team sports. More specifically we refer to Organizational Justice Theory, Self-Determination Theory, and Social Identity Approach. Our first aim was to examine the relationship between perceived justice and team identification and find support for the group engagement theory in a sport setting. We expected a positive link between the perceived justice of the coach and the degree of athletes' team identification and team cohesion. In addition we were interested in the relation between need support and athletes' team identification. Therefore, we compared the impact of perceived justice on team identification with the impact of need support.

Hypothesis 1:

The perception of overall justice and need support of the coach is positively related to athletes' team identification.

Based on the SIA we expect that team identification is a fundamental process that will determine team cohesion. Dutton et al. (1994) support this vision and stated that social self-categorization leads to intragroup cohesion. As a result we expected that team identification has a positive impact on social and task cohesion. Moreover, we hypothesize that the relationship from coach behavior to team cohesion is mediated by team identification.

Hypothesis 2:

The team identification of athletes is positively related to their task and social cohesion.

Hypothesis 3:

The positive relations between the perceived justice and need support of the coach and the task and social cohesion of team athletes are mediated by the team identification of the athletes.

Method

Procedure

The head coaches of 16 teams were informed about the aim of the research. These teams included seven top division volleyball teams, two second division volleyball teams, five top division handball teams, and two second division handball teams. All the contacted coaches allowed their teams to take part in the research.

The players of these teams were informed and invited to participate by means of a brief verbal presentation during or after a practice. The players who agreed to participate were sent an e-mail in which they were informed about the timing and the objectives of the web-based questionnaire. They had to fill in this web-based questionnaire after one midseason game day. Reminders were sent on Sunday evening containing the link to the questionnaire. When the players had not completed the questionnaire on Wednesday, they received a second reminder. If they had not filled in the questionnaire by Friday, they received a phone call as a final reminder.

Participants

Participants were 56 female volleyball players and 35 male handball players, which implies a total response rate of 46.2%. It should be noted however that the response rate for the volleyball players was significantly higher (i.e., 56.6%, given that 56 out of 99 contacted female players completed the questionnaire) than the response rate of the handball players (i.e., 35.7% given that 35 out of 98 contacted male players completed the questionnaire). The higher response rate of the volleyball players could be partly explained by the fact that one of the authors was head coach of the women's national volleyball team. This could have increased the willingness to complete the questionnaire.

The age of the volleyball players varied from 16 to 33 ($M = 22.33$; $SD = 4.49$), while the age of the handball players ranged from 17 to 33 ($M = 23.59$; $SD = 4.48$).

Measures

The web-based questionnaire gathered information about athletes' perceived justice of the coach, coaches' need support, and team identification and team cohesion of the athletes. Participants had to answer all items on a 5-point Likert-type scale that ranged from 1 (strongly disagree) to 5 (strongly agree).

Perceived justice (16 items). This section was based on research of Colquitt (2001) and Colquitt and Shaw (2005). Justice was divided in five subcategories, namely personal distributive justice, group distributive justice, personal procedural justice, group procedural justice and informational justice. Each subcategory contained three items, except the subcategory of informational justice (4 items).

The items of the *personal distributive justice category* inquired about the perceived fairness of the playtime the individual player got during the game (e.g., "My coach rewarded me with enough playing time taking into account my contribution to the team").

The *group distributive justice category* questioned the fairness of the outcomes for the group as a totality (e.g., "My coach based himself on individual talent and competence for the selection of the starting team").

The *personal procedural justice category* informed about the perceived fairness of the procedures that the coach used for the players' individual treatment (e.g., "The evaluation of my performance during the game and/or training was supported by reliable information").

The *group procedural justice category* asked about the perceived fairness of the procedures the coach used towards the group (e.g., "My coach was consequent and replaced a player when he/she was underperforming").

Finally, the items of *informational justice* informed about the clarity of the coaches' decisions (e.g., "My coach motivated and argued his tactical decisions").

Need support of the coach (6 items). We considered need-supportive leadership as one concept composed of three subscales, namely (a) autonomy-support, (b) competence-support and (c) belongingness-support. Altogether we selected six items from three different questionnaires to assess the concept of need support. To measure the autonomy-support of the coach we used two items from the Work Climate Survey (Deci, Connell, & Ryan, 1989). These items were used previously and adapted to the sport context by Deci et al. (2001). Competence-support was questioned by two items (Wellborn, Connell, Skinner, & Pierson, 1988) and adapted to the sport context (Goris, 2006). Belongingness supportive leadership was tapped from the Children's Report on Parenting Behavior Inventory (CRPBI; Schaefer, 1965), of which we adapted two items to the sport context. An example is: "My coach had faith in my capabilities and gave me the feeling I could realize myself".

Identification with the team (3 items). The three highest loading items of the team identification scale by Boen, Vanbeselaere, Pandelaere, Schutters, and Rowe (2008) were used. An example is: "The successes of my team feel like my own successes".

Task cohesion (3 items). Task cohesion was questioned with three items of the Group Environment Questionnaire (GEQ; Carron et al., 1985). We selected the three best fitting items of the subgroup group integration – task cohesion and translated them into Dutch. An example is: "On the field we are one group rather than a gathering of individuals".

Social cohesion (3 items). We selected three items of the GEQ subgroup: group integration – social cohesion and translated these items into Dutch. An example is: "Outside the field we are one group rather than a gathering of individuals".

Data analysis

A confirmative factor analysis was performed using AMOS on the 16 items of organizational justice and the nine items of team identification, task and social cohesion to extract the different factors. The internal consistency of all subscales was calculated using the Cronbach's alpha and correlations were examined. Finally, Structural Equation Modeling (SEM) was conducted to investigate whether perceived justice and need-supportive leadership had an independent contribution in the prediction of the athletes' identification with the team and their task and social cohesion.

Results

Descriptive statistics and correlations

Means, standard deviations and correlations for the variables of study 1 are provided in Table 1. Scale reliabilities (Cronbach's Alphas) are provided in parentheses on the diagonal.

Overview of the SEM analyses

CFA of perceived justice, need support, identification and cohesion. To have confidence in the structural model, it is critical that the measurement of the latent factors is psychometrically sound (Byrne, 1994). Therefore, we first tested the factorial structure of each scale via Confirmatory Factor Analysis (CFA).

CFA supported the proposed five-factor model for perceived justice of the coach ($\chi^2 = 82.84$, $df = 77$, $p = .30$; GFI = .90;

Table 1

Means, standard deviations correlations and Cronbach's alphas for all variables used in the study (5-point Likert-type scale).

Variable	M	SD	1	2	3	4	5
1. Perceived justice	3.47	.61	(.83)				
2. Need Support	3.62	.99	.587**	(.95)			
3. Team identification	4.15	.78	.411**	.400**	(.82)		
4. Task cohesion	3.79	.95	.220*	.176	.574**	(.90)	
5. Social cohesion	3.88	.86	.140	.226*	.569**	.648**	(.89)

* $p < .05$, ** $p < .001$.

AGFI = .84; CFI = .99; RMSEA = .03). All factor loadings (.26–.88) were statistically significant except one. We deleted this item (i.e., “My individual approach by the coach was based on accurate information”) and computed the mean of the 15 items to acquire an overall perceived justice rate.

Furthermore, CFA supported a one-factor model for perceived need-support of the coach ($\chi^2 = 8.43$, $df = 8$, $p = .39$; GFI = .97; AGFI = .92; CFI = 1.00; RMSEA = .03). All factor loadings were statistically significant and ranged from .80 to .93. We computed the mean of the six items to acquire an overall need support rate.

The CFA on the hypothesized three-factor model of team identification and team cohesion (i.e., team identification, task cohesion, and social cohesion) provided good fit to the data ($\chi^2 = 26.15$, $df = 24$, $p = .35$; GFI = .94; AGFI = .88; CFI = 1.00; RMSEA = .03). All factor loadings were statistically significant, and ranged from 0.71 to 0.95. We also compared the three-factor model with a one- and a two-factor model. In the one-factor model we assumed that all items load on one latent variable instead of the three independent latent variables. The CFA on the one-factor model provided poor fit of the data ($\chi^2 = 149.40$, $df = 27$, $p = .00$; GFI = .70; AGFI = .50; CFI = .77; RMSEA = .23). In the two-factor model we combined all the cohesion items and assumed that there were two independent latent variables. The CFA provided good fit to the data ($\chi^2 = 27.75$, $df = 23$, $p = .23$; GFI = .93; AGFI = .87; CFI = .99; RMSEA = .05). However, the two-factor model showed strong covariances between the three disturbance terms of the task cohesion items. In addition to this, the AIC value for the two-factor model was higher than the AIC value of the three-factor model, respectively AIC = 71.75 and AIC = 68.15. As a result, we can conclude that the three-factor model fits best to the data.

Path model. The AMOS maximum likelihood confirmatory path analysis indicated a good fit of the hypothesized model ($\chi^2 = 3.38$, $df = 4$, $p = .50$; GFI = .99; AGFI = .95; CFI = 1.00; RMSEA = .00). The standardized regression path coefficients and the proportions explained variance are illustrated in Fig. 1. Furthermore, we estimated and found the disturbance terms of task and social cohesion to be significantly interrelated ($r = .48$, $p < .001$). Based on this model, we can conclude that Hypotheses 1 and 2 were supported.

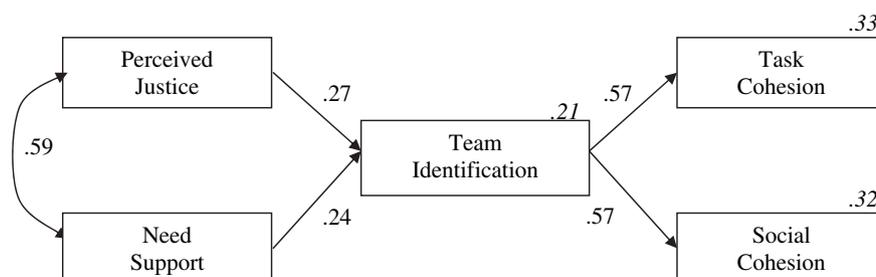


Fig. 1. The structural model of perceived justice, team identification and cohesion with the regression coefficients and the proportions explained variance. *Note:* all coefficients presented are standardized and significant ($p < .05$).

The mediational effects in the hypothesized model were tested following the SEM approach advanced by Holmbeck (1997). First we tested a model estimating the direct paths from overall justice and need support (i.e., predictors) to task and social cohesion (i.e., outcomes). This model illustrated that the four direct paths were non-significant (overall justice, task cohesion: $\beta = .18$, $p > .05$; overall justice, social cohesion: $\beta = .01$, $p > .05$; need support, task cohesion: $\beta = .07$, $p > .05$; need support, social cohesion: $\beta = .22$, $p > .05$). As such, the mediational condition that a significant relationship should exist between the predictor and the outcome variable was not supported, despite the fact that the predictor – mediator and mediator – criterion paths were significant (i.e., Hypothesis 1 and 2). Although there is evidence for an indirect effect between perceived justice and need support on the one hand and team cohesion on the other hand, the findings demonstrate that team identification does not (and cannot) significantly account for the predictor–criterion relationship (Holmbeck, 1997). Thus our findings fit the criteria for an indirect effect, but do not support Hypothesis 3.

Discussion

This study was conducted to test the relevance of some well-known organizational psychology variables in the specific context of team sports. Our primary purpose was to examine if two specific perceptions of coaching behavior, namely whether the coach is perceived as fair and as need supportive, were related with athletes' team identification. Consistent with the findings of Olkkonen and Lipponen (2006) in an organizational setting, we found that in Belgian elite volleyball and handball teams the perception of justice of the coach was positively related to athletes' team identification. Although there is abundant evidence in the business literature about this relation, the present research has demonstrated this link for the first time in a sport context.

These results support the basic tenets of the group engagement model (Tyler & Blader, 2003), which argued that procedural justice is central to how and whether people construct their group-related identities. Following the lines of this theory, justice perceptions affect organizational identifications given the positive social identity-relevant information that justice communicates to individuals. In particular, justice enhanced the quality of decision making and the quality of interpersonal treatment, which in turn contributes to people's assessment that it is safe for them to merge their identity with their team (Tyler & Blader, 2003).

Besides the influence of justice, the results also revealed a positive relation between the perceived need support of the coach and athletes' team identification. This relationship can be explained in a similar way as the relation between justice and identification. A coach who supports his athletes' need of autonomy, competence and relatedness, gives them the feeling

that they are respected, appreciated, and valued members of the team. Furthermore, through its link to these feelings of respect and pride, need support is further related to increased identification with the group.

A second goal of this research was to determine whether identification can be considered as a predictor of the in sport psychology wider spread concept of team cohesion. Consistent with our predictions and in line with previous organizational research (Dutton et al., 1994), the results showed that team identification and team cohesion were closely related but different constructs. The results support our SIA based statement that identification is the basic, underlying predictor and team cohesion is the behavioral consequence of this shared categorical identity. We assume that team identification accentuates the similarities with other group members which lead to enhanced in-group cohesion.

Finally, we investigated the role of identification in the relation between coach behavior and team cohesion. Given that no significant direct relation emerged between coach behavior (i.e., perceived justice, need support) and team cohesion (i.e., task, social cohesion), team identification cannot be seen as mediator of this relation. This study yielded evidence for an indirect effect going from coach behavior to team identification and from team identification to team cohesion. This is not completely in line with our expectations. Nevertheless, the fact that we found an indirect impact of coach behavior on team cohesion highlights the importance of team identification in team sports. If a coach would affect athletes' task and social cohesion, he/she must attempt to improve the athletes' identification with the group.

Study 2

The results of study 1 confirmed that both perceived justice and need support of the coach are important predictors of athletes' identification with the team. Whereas need support is already an important research topic in sport psychology, organizational justice has been disregarded by sport psychologists up to this day. In this respect, we pointed out that it is essential to further corroborate organizational justice in the context of sport teams.

By performing a second study in another cultural setting (i.e., Norwegian female top level handball players) we want to expand the knowledge about organizational justice. In this study we used more extensive measurements of perceived organizational justice, team identification and cohesion. More specifically, we focused on the relative impact of distributive and procedural justice on athletes' team identification and cohesion. Tyler and Blader's (2003) group engagement model stated that group members' identities are determined in large part by their judgments of procedural fairness. This model also assumed that distributive justice had an additional (albeit smaller) positive impact on peoples' team identification. Support for these assumptions has been found in the business setting by Tyler and Blader (2000) and Olkkonen and Lipponen (2006).

The hypotheses of study 2 were almost the same as in study 1, with this difference that we now compared the impact of two separated forms of justice on team identification and not the impact of overall justice. In line with the group engagement model we expected that procedural justice would be stronger related with team identification than distributive justice (Hypothesis 1). Furthermore we stated that this team identification is the basic underlying predictor of cohesion (Hypothesis 2). Consequently, we expected that the relationships between perceived justice of the coach and athletes' task and social cohesion were mediated by team identification (Hypothesis 3).

Method

Procedure

The head coaches of the 12 Norwegian female first division teams were informed by telephone about the aim of the research. Of the 12 coaches who were asked, 10 agreed to participate. The two coaches, who decided not to participate, gave as reason the high workload of their players.

All data were collected in November and December 2008. Questionnaires were sent by post to the coach or a selected player. The persons receiving the questionnaires were responsible for distributing them among the players. An information letter was included with each questionnaire, explaining the aim of our study. The players were asked to put their completed questionnaires in a separate envelope, which was enclosed with the questionnaire, and to seal the envelope before returning it to their coach or the selected player. Finally, the questionnaires were sent to the author in the stamped, addressed envelope provided.

Participants

The research sample consisted of 110 senior female handball players from 10 different teams in the Norwegian elite series. This implies a total response rate of 57.0%. The response rates from the different teams ranged from 36.4% to 83.3%. The participants' age ranged from 17.1 years to 36.3 years ($M = 22.8$ years, $SD = 4.0$). The number of years of experience at elite level ranged from 4 months to 20 years ($M = 3.9$, $SD = 3.6$). Eighteen (16.4%) of the participants had played for the Norwegian national team during the last 3 years.

Measures

Perceived justice (8 items). Distributive and procedural justice perceptions were assessed with an adapted and translated version of the justice questionnaire of Colquitt (2001). Taking the guidelines of Colquitt and Shaw (2005) into account, four items assessed perceptions of distributive justice (e.g., "The minutes I play per game are justified on the basis of my performance") and four items assessed perceptions of procedural justice (e.g., "My coach is consistent in making decisions"). Participants responded to this justice perception items on a 5-point Likert scale (strongly disagree = 1; strongly agree = 5).

Identification with the team (6 items). Based on previous team identification assessment of Boen et al. (2008), we translated six items from different questionnaires (Haslam, 2004) to assess the concept of identification (e.g., "The successes of my team feel like my own successes"). Participants responded to this team identification items on a 7-point Likert scale (strongly disagree = 1; strongly agree = 7).

Task cohesion (5 items). Task cohesion was questioned with the GEQ (Carron et al., 1985). We translated five items of the subgroup group integration – task cohesion (e.g., "Our team is united in trying to reach its performance goals").

Social cohesion (5 items). We used the same GEQ (Carron et al., 1985) and translated five items of the subgroup: group integration – social cohesion (e.g., "Members of our team do not stick together outside of practices and games").

For both cohesion subscales, the items were provided to the participants in a 9-point Likert scale (strongly disagree = 1; strongly agree = 9).

Data analysis

Similar analyses as in Study 1 were conducted.

Results

Descriptive statistics and correlations

Means, standard deviations and correlations for the variables of study 2 are provided in Table 2. Scale reliabilities (Cronbach's Alphas) are provided in parentheses on the diagonal.

Overview of the SEM analyses

CFA of perceived justice, team identification and cohesion. CFA supported the proposed two-factor model for perceived justice of the coach ($\chi^2 = 16.49$, $df = 19$, $p = .62$; GFI = .97; AGFI = .94; CFI = 1.00; RMSEA = .00). All factor loadings (.69–.95) were statistically significant. Therefore, we computed the mean of the four items of distributive justice and the mean of the four items of procedural justice separately.

On the other hand, the CFA on the hypothesized three-factor model of team identification and cohesion (i.e., team identification, task cohesion, and social cohesion) provided poor fit to the data ($\chi^2 = 178.13$, $df = 98$, $p = .00$; GFI = .82; AGFI = .75; CFI = .89; RMSEA = .09). All factor loadings (.36–.92) were statistically significant, except item 5 of the task cohesion subscale (i.e., "Our team members do not communicate freely about each athlete's responsibilities during competition or practice").

Retesting the three factors (team identification, GIS and GIT), leaving item 5 of the task cohesion out of the calculations, showed acceptable fit indexes ($\chi^2 = 138.04$, $df = 84$; $p = .00$; GFI = .85; AGFI = .78; CFI = .92; RMSEA = .08). All factor loadings were statistically significant. We also compared the three-factor model with a one- and a two-factor model. In the one-factor model we assumed that all items load on one latent variable instead of the three independent latent variables. In the two-factor model we combined all the cohesion items to an overall cohesion variable and assumed that the items load on two independent latent variables. The CFA on both the one- and the two-factor model provided poor fit to the data (i.e., respectively: $\chi^2 = 243.96$, $df = 87$, $p = .00$; GFI = .75; AGFI = .65; CFI = .78; RMSEA = .13; and $\chi^2 = 187.33$, $df = 86$, $p = .00$; GFI = .76; AGFI = .71; CFI = .86; RMSEA = .11). Besides this, the AIC values for the one- and two-factor model were drastically higher than the AIC value of the three-factor model, respectively AIC = 309.96, AIC = 255.33 and AIC = 210.04. As a result, we can conclude that the three-factor model fits best to the data.

Path model. The hypothesized model provided a moderate fit to the data ($\chi^2 = 11.76$, $df = 4$; $p = .02$; GFI = .96; AGFI = .85; CFI = .92; RMSEA = .14). The standardized regression path coefficients and the proportions explained variance are illustrated in Fig. 2. This model partially supports Hypothesis 1, however the expected weak relation between distributive justice and team identification was not significant. Furthermore, the model showed that team identification positively predicts both forms of athletes' cohesion (Hypothesis 2).

Table 2

Means, standard deviations correlations and Cronbach's alphas for all variables used in study 2.

Variable	M	SD	1	2	3	4	5
1. Distributive justice	3.43	1.11	(.95)				
2. Procedural justice	3.02	.92	.345*	(.85)			
3. Team identification	5.69	1.02	.167	.378*	(.85)		
4. Task cohesion	7.13	1.53	.054	.384*	.403*	(.70)	
5. Social cohesion	6.59	1.65	-.025	.269*	.500*	.411*	(.80)

* $p < .01$.

The mediational effects in the hypothesized model were tested following the SEM approach by Holmbeck (1997). As first step, we tested a model estimating the direct path from the predictors (i.e., distributive and procedural justice) to the outcome variables (i.e., task and social cohesion). This model revealed no significant regression paths from distributive justice to both cohesion constructs (distributive justice, task cohesion: $\beta = -.09$, $p > .05$; distributive justice, social cohesion: $\beta = -.14$, $p > .05$). A new model only accounting for regressions paths between procedural justice one the one hand and task and social cohesion one the other hand provided a good fit to the data ($\chi^2 = 2.12$, $df = 2$, $p = .35$; GFI = .99; AGFI = .95; CFI = 1.00; RMSEA = .02). This model showed significant standardized regression paths from procedural justice to both cohesion constructs (procedural justice, task cohesion: $\beta = .38$, $p < .001$; procedural justice, social cohesion: $\beta = .27$, $p < .01$). As such, the mediational condition of significant associations between predictor and outcome variables was only satisfied for procedural justice and not for distributive justice. As a result, we will only include procedural justice as a predictor variable in further analyses.

In the second step of the Holmbeck's (1997) SEM approach, we estimated the model fit of a constrained model with no direct regression paths from predictor to outcome variables. This constrained model showed a moderate to good fit ($\chi^2 = 11.94$, $df = 5$, $p = .04$; GFI = .96; AGFI = .88; CFI = .92; RMSEA = .12). Regression coefficients from procedural justice to team identification (.38, $p < .001$) and from identification to task (.41, $p < .001$) and social cohesion (.50, $p < .001$) were significant. Consequently, the mediational conditions of significant associations between the predictor and mediator and between the mediator and the outcome variables were satisfied.

In the third step of the Holmbeck's (1997) SEM approach, we examined an unconstrained model, allowing also direct regression paths between the predictor (i.e., procedural justice) and the outcome variables (i.e., task and social cohesion). The unconstrained model had a good fit to the data ($\chi^2 = 3.76$, $df = 3$, $p = .29$; GFI = .99; AGFI = .93; CFI = .99; RMSEA = .05). However, the path from procedural justice to social cohesion was non-significant ($\beta = .10$, $p > .05$). Other regression coefficients were significant ($p < .01$).

The final step to determining mediation was to examine whether the unconstrained model provides a significant improvement in fit over the constrained model (Holmbeck, 1997). Therefore, we performed a chi-square difference test between the less (i.e., unconstrained) and the more restrictive (i.e., constrained) models. The chi-square difference test indicated a significant difference between the two models ($\Delta\chi^2 (2) = 8.21$; $p < .05$). Consequently, the constraint model was improved by adding the direct path from procedural justice to task cohesion. These results partially support Hypothesis 3.

Based on the results of the different models, we had to adapt our hypothesized model. The final model, as shown in Fig. 3, had a good fit to the data ($\chi^2 = 4.914$, $df = 4$, $p = .30$; GFI = .98; AGFI = .93; CFI = .99; RMSEA = .05) and all standardized regression coefficients were significant on a $p < .01$ level. Furthermore, the disturbance terms of task and social cohesion were significant interrelated ($r = .27$, $p < .01$).

Discussion

This study was conducted to specify the relations between organizational justice and team identification and cohesion in a team sport setting. Our main goal was to investigate the relationship of two different justice concepts, namely distributive and procedural justice, with athletes' team identification. Contrary to

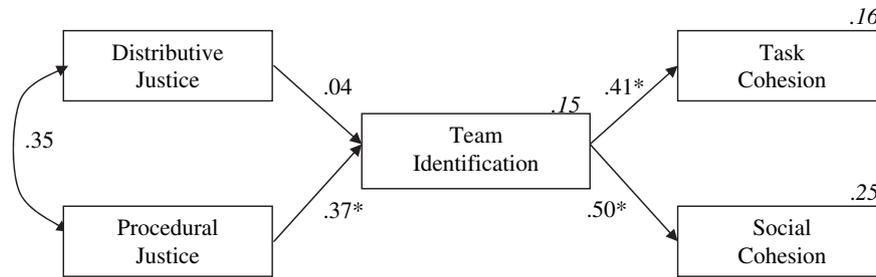


Fig. 2. The structural model of distributive, procedural justice, team identification and both forms of cohesion with the regression coefficients and the proportions explained variance. Note: all coefficients presented are standardized (* $p < .01$).

the findings of [Olkkonen and Lipponen \(2006\)](#) in an organizational setting, we found that in Norwegian elite handball teams only procedural justice was related with team identification, while distributive justice had no impact on athletes' team identification.

In line with the group engagement model of [Tyler and Blader \(2003\)](#), the results showed that judgments about the procedural justice were the primary antecedents of identity judgments. This model argues that people are most strongly influenced by the fairness of the group's procedures ([Tyler & Blader, 2003](#)), but that judgments about the distributive justice have a supplementary influence on identity judgments via resource judgments (i.e., the fair allocation of resources). Explanations for the difference between this model and the present study, in which we found no relation between distributive justice and identification, can be found in the measurement of identification. The identity judgments of [Tyler and Blader \(2003\)](#) comprised three aspects of group-linked identity: identification, pride, and respect. Our measurement focused on the team identification of players, neglecting pride and respect. Furthermore, we were not the first to reveal a decreased influence of distributive justice in natural settings. [Tyler and Caine \(1981\)](#) found that individuals in natural settings focused on procedures rather than on outcomes in forming their evaluations of leaders. To conclude, this study has shown that procedural justice positively predicts athletes' team identification, whereas distributive justice has no significant contribution. As this was the first study to examine the impact of different justice concepts in a team sport setting, more research is necessary to test if procedural justice perceptions are predominant in the coach–athlete relation in team sports.

A secondary aim of this research was to determine whether identification was a predictor of task and social cohesion. Consistent with the findings of study 1 and in line with previous research ([Dutton & al., 1994](#)), the results illustrated a positive relationship between team identification and cohesion.

Finally, we were interested in the role of team identification in the relationship between justice perceptions and cohesion. Distributive justice did not predict task or social cohesion. However

study 2 showed that team identification mediated the relationship between procedural justice and cohesion. More specifically, the relation between procedural justice and task cohesion was partially mediated by team identification, while the relation between procedural justice and social cohesion was fully mediated by athletes' team identification.

General discussion

Team identification is seen as the crucial factor for team behavior ([Haslam, 2004](#)) and most coaches acknowledge that team behavior is of vital importance to achieve optimal performance in team sports. Therefore, two studies in different cultural settings and sports were conducted in which we examined if perceived justice and need support of the coach shape athletes' identification with the team. Until now the concept of organizational justice was disregarded by sport psychologists. However, the first study indicated that overall perceived justice is at least as important as overall need support of the coach to predict athletes' identification with the team. For that reason, study 2 elaborated on the impact of perceived justice in the context of team sports, and highlighted the crucial impact of coach-related procedural justice for athletes' team identification.

Considering the little differences between business and sport settings mentioned in the introduction, we modified the source of organizational justice. Research in the business setting has treated distributive and procedural justice as an institutionalized (i.e., the organization as major source) part of fairness. However, the two studies presented in this paper concentrated on the coach as source of perceived justice and demonstrated that both overall and procedural justice of the coach were related with team athletes' identification. This implies that future research should consider the coach/leader as an important source of organizational justice, besides the organization as a whole.

Based on study 2, we concluded that distributive justice, operationalized as the fair distribution of play minutes, does not determine elite athletes' team identification and cohesion. At first

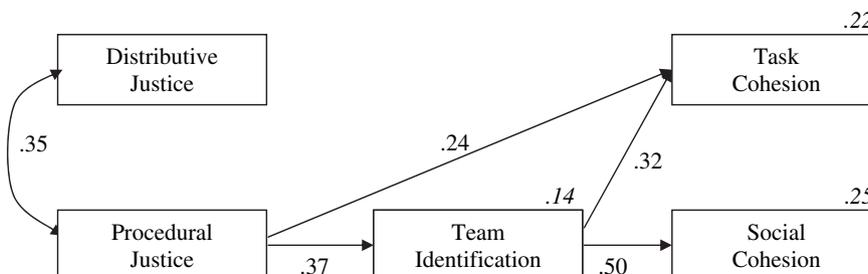


Fig. 3. The structural model best fitting our data. Note: all coefficients presented are standardized and significant ($p < .05$).

sight, this finding seems contradictory to the previous findings of the group engagement model (Tyler & Blader, 2003). However, if we look closer to the group engagement model, there are two concepts predicting identification, namely pride (i.e., reflects the person's evaluation of the status of the group) and respect (i.e., reflects their evaluation of their status within the group). As the playtime of athletes can be linked with their personal status within the group, one would expect an impact on athletes' team identification. However at an elite level, where intergroup behavior is essential, players might let the status of the group (i.e., pride) prevail over their own status (i.e., respect). As a result their personal play minutes would be not crucial for their team identification.

Considering the fact that procedural justice is related with both team identification and team cohesion, the coach as source of procedural justice deserves our special attention. This paper supports the social identity mediation hypothesis, which suggests that identity evaluations and concerns mediate the relationship between justice judgments and group engagement (Tyler & Blader, 2003).

Particularly, the present studies showed that the concepts of team identification and team cohesion are not the same. More specifically, team identification is the fundamental process of internalizing norms and values of a group, which creates an in-group bias. Consequently, this in-group bias leads to behavioral outcomes, such as intragroup cohesion. These results are in line with the statement of Dutton et al. (1994). Therefore we assume that it would be valuable to shift the attention in sport psychology from the rather narrow team cohesion to the broader and more fundamental team identification.

Next to the mediating role of team identification, in sport teams, the fairness of procedures also directly influenced task cohesion. To explain this direct relation we refer to Mullen and Copper (1994). They proposed that, in sport teams, standards for excellence are clear and generally universally endorsed by team members. Therefore even without salient team identification, elite athletes with a high sense of individuality must agree to a set of rules and norms to make the group function as a whole.

From a practical standpoint, coaches of elite team sports are focused on performance and winning. It is broadly accepted that optimal team performance is only possible as all players put aside their own concerns and show group behavior. As mentioned before, social identification has a positive impact on this vital group behavior and group performance (Hopkins, 1997). Moreover, Carron et al. (2002) illustrated a significant moderate to strong relationship between cohesion and performance in sport settings. As our models show how coaches can enhance athletes' team identification and develop higher levels of team cohesion, they can be used to optimize the team performance.

First, the coach should be concerned about the athletes' perceptions of justice. Research on organizational justice (Cole & Latham, 1997) proved that a training program based on organizational justice theory had a positive influence on the perceived justice of the manager. Coaches can thus affect the athletes' perceived justice if they use strategies that are perceived to be 'correct' by the players. Cropanzano and Greenberg (1997) suggest there are a number of ways to improve a person's perception of justice. We recommend coaches to focus on procedural and informational related strategies because our results suggested that distributive justice of the coach had no significant impact. Besides this, a coach is not always able to provide the outcomes desired by an athlete (i.e., starting position, team captain). Strategies intended to improve perceptions of fairness include: provision of voice, consideration, and informational justifications (Jordan et al., 2004). These approaches have been shown to be effective even when the person is disappointed with the outcomes he/she receives (Greenberg & Lind, 2000).

Second, the results established that a coach who supports the athletes' basic psychological needs for autonomy, competence, and relatedness will positively influence the athletes' team identification. Strategies for such need-supportive leadership are: providing athletes some choices and options, using evaluation criteria based on self-referenced improvement and effort, and taking care of the athlete as a person not only as a performing player (Reinboth et al., 2004).

Some limitations of the present research should be noted. First, the data are cross-sectional in nature. Given that the coach–athlete relation is a dynamical process and that its quality fluctuates during the season, longitudinal studies are recommended to examine these issues in greater depth.

Second, we did not differentiate between autonomy, competence and relatedness support. As a result we could not test whether autonomy, competence or relatedness support differentially predicted athletes' team identification. However, it would be interesting to check whether one form of need support determines team identification more than another.

Third, our cohesion measurement contains only items from the group component of the GEQ (Carron et al., 1985), namely group integration–task and group integration–social. It may be interesting for future research to extend our model by linking team identification with both the group and the individual component of the GEQ.

Finally, interactional justice was not measured in study 2. Consequently, we could not compare the impact of interactional justice with the other forms of justice. Therefore, future research should extend our model with this form of justice.

We want to emphasize that these studies were only the first step in testing the importance of organizational justice in the domain of sport psychology. More research is necessary to understand the role of organizational justice in team sports. First, future research should investigate the impact of perceived justice on a broader range of performance related outcomes in team sports. For example, it would be valuable to check the influence of justice on the motivational climate, the amount of effort of team members, their individual progression, and the team performance. Besides this, it would be useful to examine the underlying mechanism that leads to team athletes' fairness judgments. Therefore, researchers need to explore the predictors of perceived justice of the coach (e.g., communication style, decision style, power of the coach, ...). Finally, based on the acquired knowledge about the justice mechanism in team sports, scientifically build training programs can be developed and applied to adjust the coaching behavior and enhance the coach effectiveness.

To conclude, this study was the first to link OJT, SDT and SIA in a team sport setting. It demonstrates that, even though there are some clear differences between business and team sport contexts, it is valuable to transfer social psychology concepts to the field of sport psychology. The results indicate that perceived justice and need support of the coach are important predictors of athletes' team identification. Moreover, team identification positively predicts team cohesion and mediates the relation between procedural justice and team cohesion. The importance of organizational justice and team identification was shown in two different cultural settings, in two different team sports and for both sexes. Therefore, sport psychologists need to expand the knowledge about organizational justice and team identification in the field of sport coaching. Obviously, also coaches should have a notice of the impact of these constructs as they seem to influence the attitudes and behaviors of team athletes.

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