Is it really all about money? A study on incentives in elite team sports

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To access the publisher version or to cite this article:
Maier, C., Woratschek, H., Ströbel, T., & Popp, B. (2016). Is it really all about money? A study on incentives in elite team sports. *European Sport Management Quarterly*.
doi: 10.1080/16184742.2016.1188841

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Abstract

Research question: A key task for sports managers of elite sports clubs is to create an ideal environment that enables athletes to perform at their best. Therefore, we investigate the relationship among monetary incentives, organizational support, and athletic performance in elite team sports.

Research methods: This study is the first in sports management to calculate the relative effects of non-monetary incentives of organizational support and monetary incentives on individual performance through job satisfaction. Furthermore, we apply an innovative measurement approach of player performance by using individual performance ratings of coaches. We collect questionnaires from 315 athletes and 34 coaches of 19 professional football, ice hockey, and handball clubs in Germany.

Results and findings: Two variables of organizational support—namely, integration of family and private problem support—show strong positive effects on athletes' job satisfaction. Whereas prior studies have focused mainly on monetary incentives, this study reveals a strong relevance of organizational support. Furthermore, the results confirm a strong relationship between player satisfaction and individual performance.

Implications: Sports managers need to recognize the relevance of non-monetary incentives of organizational support and integrate them into their management repertoire to improve job satisfaction and, consequently, facilitate top performance of their players. Further research should focus on the effects of non-monetary incentives and other aspects of organizational support. In addition, researchers should use individual performance ratings of coaches, rather than other measures, to evaluate player performance because of their expertise and superior background information.

Keywords: elite team sports; performance; organizational support; incentives; job satisfaction

Introduction

In elite team sports, even a marginal increase of individual athletic performance can mean the difference between winning and losing. Player performance strongly determines the sporting and economic success of a sports club. Current research has focused on domains such as kinesiology, physiology, biomechanics, and coaching to maximize player performance. These research streams provide recommendations for coaches and trainers on how to improve player performance; however, research on how the management of a sports club can influence performance is limited. Apart from literature on the effectiveness of salary or wage dispersion (e.g., Franck & Nüesch, 2011; Frick, 2011), few studies have analyzed other incentives. Notably, the few studies on the potential effects of individual financial performance bonuses reveal contradictory results (Baruch, Wheeler, & Zhao, 2004; Mondello & Maxcy, 2009).

Considering that most player contracts contain performance bonuses for parameters such as wins, points, or goals, this aspect should not be overlooked in research. However, can money alone buy performance? Other than monetary incentives, research has not investigated the relationship between non-monetary incentives and performance in depth from the perspective of an elite team sports club. Recent qualitative studies on organizational and social support of athletes (Nicholson, Hoye, & Gallant, 2011; Price, Morrison, & Arnold, 2010) reveal important insights from a new and promising research area. Furthermore, no studies have analyzed the relative effectiveness of monetary and non-monetary incentives, such as different aspects of organizational support. However, the relative effectiveness is important to know for sport managers to allocate effectively scarce budgets. Particularly with regard to salary caps and scarce financial resources, knowledge about the relative effectiveness of incentives is crucial for an efficient allocation of those resources. As the effectiveness of incentives highly depends on the context (e.g., Fisher & Yuan, 1998; Latham & Pinder, 2005), results of non-sports-related industries or from collegiate and non-elite players cannot be transferred to the context of elite team sports clubs without further

qualification. In addition, primary quantitative data from elite team sports athletes are largely missing with regard to the effectiveness of incentives.

Gathering primary quantitative data from elite team sports athletes bears various difficulties. First, the population of elite team sports athletes is small. Second, club managers are keen to control information about any contractual commitments, so accessing remuneration data from elite team sports clubs is difficult. While some leagues reveal team expenditures or sometimes even player salaries, data on performance-related bonuses are usually not available to the public. Third, clubs do not allow any external interference. For example, a survey about incentives and satisfaction might distract players from focusing on the next game, championship, or potential relegation. Similarly, secondary data, gathered by leagues or private institutions (e.g., sports magazines), do not offer sufficient information in that regard. Especially, such data cannot be used to access psychographic variables such as job satisfaction. Finally, existing approaches to measuring elite team sports athletes' individual performance have some shortcomings in validity and reliability. For example, many studies use overall winning percentages or the number of games won to measure performance (e.g. Simmons & Berri, 2011; Yamamura, 2008). However, those numbers do not properly reflect athletes' individual performance, and they are regularly influenced by external factors.

By addressing these issues, our study provides three main contributions to this increasingly important area in sports management. First, we provide empirical support for the relationship among incentives, job satisfaction, and performance in the context of elite team sports. Second, we analyze the relative impact of two monetary incentives (salary and monetary bonuses) and three non-monetary incentives of organizational support by clubs (integration of family, second career support, and private problem support) on job satisfaction. Third, we devise an innovative approach to measure athletes' individual performance in elite team sports. We use performance ratings by coaches for every player and

match them to the players' evaluations of the incentives offered by their clubs. Therefore, the resulting data set offers unique primary data of elite team sports athletes and their coaches.

We organize the remainder of the article as follows: We first outline the role of incentives in inhibiting opportunistic behavior in sports. Then, we review literature on organizational support in different disciplines and describe existing approaches of performance measurement in team sports. Moreover, we discuss apparent challenges in measuring individual athletic performance. Building on this foundation, we present our conceptual model and suggested hypotheses. Next, we describe our research design, validate the measures, and estimate a structural model to test the hypotheses. We also control for the time a player has been with an organization on the relationship between the incentives and job satisfaction. In addition, compared with the proposed indirect effect through job satisfaction, we test a rival approach that ties incentives directly to performance. Finally, we discuss the results of the study and provide implications for research and practice.

Literature review

Need of incentives in professional sports

Although some studies report no evidence of opportunistic behavior (Krautmann, 1990; Maxcy, Fort, & Krautmann, 2002), others reveal shirking as a type of opportunistic behavior in sports (Fernie & Metcalf, 1999; Frick, Prinz, & Winkelmann, 2003; Krautmann & Solow, 2009; Lehn, 1982; Scoggings, 1993; Stiroh, 2007). Especially athletes with long-term contracts tend to reduce their efforts strategically. Maxcy et al. (2002) investigate the performance of athletes in Major League Baseball over the duration of their contracts and show that fixed salaries in long-term contracts provide a significant incentive for shirking. Frick (2011) analyzes two longitudinal data sets of German football players and reports an increase of 2%–3% in performance in the last year of their contract, thus showing that athletes can and do vary their effort strategically. In addition to shirking and the strategic or possibly unconscious decrease of performance, athletes can engage in opportunistic behavior by not taking part in the actual competition. Lehn (1982) shows that players with multi-year

contracts tend to spend considerably more time on the disabled list than players with contract lengths of two years or less. Opportunistic behavior in sports seems to be a relevant and actual issue, and clubs need to take actions to defend against it. To decrease opportunistic behavior, increase expected behavior, and provide a performance-enhancing environment, employers need to set adequate incentives (Cadsby, Song, & Tapon, 2007). In addition to monetary remuneration and bonuses, clubs can offer various aspects of organizational support to their players. In the following, we review research on such organizational support in and off the field of sports management.

Organizational support and elite sports

According to Kossek, Pichler, Bodner, and Hammer (2011), two main research fields capture organizational support in management literature. The first examines the relevance of organizational support to family issues, while the second area focuses on outcomes of organizational support in general. Studies investigating conflicts between family and work have shown negative effects on work satisfaction. Employees value their organizations' understanding of and emotional support for family issues and work–life balance (Cegarra-Leiva, Sánchez-Vidal, & Cegarra-Navarro, 2012; Lu et al., 2009). Work-related conflicts within families increase the probability of turnover, and several studies have shown a strong negative influence of family-friendly policies on withdrawal cognitions (Aryee, Luk, & Stone, 1998; Carr, Boyar, & Gregory, 2007; Yamamoto, 2011). Furthermore, work–family conflicts can lead to negative consequences, such as increased absence due to sickness and leaving-work-early behavior (Boyar, Maertz, & Pearson, 2005). The working conditions of elite team sports athletes could have high potential for work–family conflicts. Aspects such as irregular working hours or high media attention can aggravate players' functioning private family life. Therefore, research needs to analyze family-friendly policies further in the context of sports management.

Regarding the second research area, outcomes of organizational support in general, researchers have mostly focused on the concepts of perceived organizational support or

perceived supervisor support (Rhoades & Eisenberger, 2002). While several studies reveal positive outcome effects of organizational support, such as decreased turnover intention and increased performance (e.g., Allen, Shore, & Griffeth, 2003), no studies have analyzed the exact nature of specific support structures or services that can be offered to employees (Nicholson et al., 2011). The concept of organizational support needs to be understood as a meta-concept comprising several incentives of support provided by an organization. In particular, managers could use this knowledge of the exact nature of employee demands for organizational support to install appropriate policies and offer attractive services and incentives.

Research on organizational support in elite sports is rather limited, though research has examined specific aspects of support. For example, Drawer and Fuller (2002) document retrospective dissatisfaction of former professional football players with welfare and education support. Kristiansen and Roberts (2010) report a high relevance of social support for adolescent athletes to cope with competitive and organizational stress. Furthermore, Price et al. (2010) find that engaging in non-sporting pursuits helps athletes develop a stable life balance and prolongs their career. Moreover, Dowell and Singer (2011) show the relevance of support with wealth planning for reducing professional athletes' uncertainty and addressing emotional issues about the future. Using an exploratory approach, Nicholson et al. (2011) analyze the provision of social support for elite indigenous athletes in Australian Football and call for further research on specific support services. Maier, Woratschek, and Ströbel's (2013) exploratory qualitative study on organizational support in elite team sports clubs follows this direction by examining specific aspects of organizational support. They identify three aspects of organizational support in elite sports: support with the integration of players' families, support of tertiary education, and support with non-sports-related problems.

In summary, research on organizational support in non-sports-related areas is fairly broad, but the concept of organizational support is mostly kept at a meta-level. Recent qualitative studies in the field of elite sports have worked to reach a deeper understanding, but

research on the potential outcomes of organizational support in elite team sports is lacking. The purpose of the current research is to provide sports managers with the necessary knowledge about the relative effectiveness of different support services.

Performance measurement in team sports

Prior research has measured performance in team sports differently. In individual sports, the evaluation of performance is comparably simple. Absolute numbers, such as strokes in golf (Ehrenberg & Bognanno, 1990; Melton & Zorn, 2000; Orszag, 1994), or time in disciplines such as marathons or horseracing (Frick & Prinz, 2007; Lynch, 2005) are easy to measure and quite useful indicators. Performance measurement in team sports holds greater challenges. Nevertheless, sports management literature offers a wide variety of performance measurement approaches for team sports.

Most researchers have used indicators of team performance, in particular winning percentage, to evaluate team performance (Berri & Jewell, 2004; Breunig, Garrett-Rumba, Jardin, & Rocaboy, 2013; Frick et al., 2003; Hall, Szymanski, & Zimbalist, 2002; Katayama & Nuch, 2011; Mondello & Maxcy, 2009; Simmons & Berri, 2011; Yamamura, 2008), though others have used league standings (Franck & Nüesch, 2011; Ribeiro & Lima, 2012) or the number of games won (Jane, Ou, & Chen, 2011; Jane, San, & Ou, 2009). Although the variable team performance has the advantage of comparable indicators and appropriate data are easy to access, it is not usable for all issues. For example, separating team performance from individual performances is not possible. Therefore, team performance is not an appropriate construct to assess the effects of incentives, such as salary or bonuses, on an individual level. Berri split team performance into wins produced by players and compare them to the actual team wins (Berri, Schmidt, & Brook; 2006; Berri, 2008; Lee & Berri, 2008). By doing so, he and his co-authors try to explain the influence of single players on the team's performance. However, external factors, such as luck, opponents' performance, or unfavorable refereeing, can influence the measurement of performance based on winning percentages or the number of games won (Courneya & Chelladurai, 1991). Moreover, wins

and losses cannot reflect the performance of a team in relation to its resources (Riemer & Chelladurai, 1998).

In addition to measuring team performance, some researchers use objective game-related indicators to assess the individual performance of players. Such indicators include batting and slugging averages, home runs, or hits in baseball (Ahlstrom, Si, & Kennelly, 1999; Harder, 1991; Krautmann & Solow, 2009; Ou & Wang, 2009; Sommers, 1994); goals, assists, and fouls in football (Frey, Schaffner, Schmidt, & Torgler, 2013; Schmidt, Torgler, & Frey, 2009); and points, rebounds, and steals in basketball (Berri & Krautmann, 2006; Stiroh, 2007). Most elite leagues gather these objective statistical numbers, so data sets are available. Nevertheless, using these objective performance indicators is problematic because of two issues. One critical issue is that single objective indicators cannot measure individual performance with respect to players' contributions to tactical goals and therefore to important aspects of team performance. Even a combination of several objective indicators offers only a limited and narrow perspective of the complex structure of a player's performance. For example, effort, teamwork, tactical performance in the game, and effort and development in practice sessions (Riemer & Chelladurai, 1998) cannot be assessed by any of the indicators but are still relevant aspects of performance in most team sports. The other critical issue is the lack of comparability between different team sports. The varying nature of different team sports makes comparing indicators impossible, so they must be established for every sport separately. Apart from this, a review of the various objective indicators used in studies within the same sport shows that agreement on the most relevant indicators of player performance is lacking among researchers.

Recently, research has introduced more subjective performance indicators, including overall player ratings from experts such as sports journalists (Della Torre, Giangreco, & Maes, 2014; Frick, 2011). Subjective performance indicators display a better overall picture of all performance-relevant aspects of the game and provide the chance to compare performances across different sports. Nevertheless, player ratings from sports journalists also

have their shortcomings. Journalists have an outside perspective, so they have little, if any, knowledge about the specific individual tasks coaches give to players. Yet, without such knowledge, a realistic and fair performance evaluation is almost impossible.

Consequently, the players themselves and the coaches are the best experts; in particular, coaches have more information and therefore are capable of evaluating and rating players' performances more accurately. Some studies have used players' self-evaluations to assess individual performance (e.g., Baruch et al., 2004; Riemer & Chelladurai, 1998). This approach overcomes some of the shortcomings of other approaches but also has problems. First, it is questionable whether athletes are able and willing to evaluate their own performance realistically. Second, studies that use self-evaluations to measure individual performance as a dependent variable are likely to confront common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Third, athletes on the field might have a limited overall perspective of the game. While athletes only perceive actions in their narrow environment, coaches take on the role of an authority, external observer, and expert; therefore, performance measurement in elite team sports should be based on individual ratings by coaches. Their role in the sports organization, their knowledge about various procedures in the club, and their relationships and daily close collaborations with the athletes make their evaluations more valid than those of other experts used in previous studies on performance measurement in team sports. Although experts' evaluations are subjective and therefore limited by their personnel perceptions and judgment of performance, their evaluations of individual performances are still based on greater expertise and extended background information than existing measurements. Thus, the current study uses multi-dimensional individual performance ratings of coaches to evaluate player performance, thereby adding a new and innovative measurement approach of individual player performance to existing approaches in sports management research.

Conceptual model and hypotheses

Sports management literature mainly focuses on a direct relationship between incentives and performance (e.g., Hall et al., 2002; Katayama & Nuch, 2011). However, according to Herzberg (1974), incentives lead to job satisfaction rather than directly to performance. Performance is a possible consequence of incentive-induced job satisfaction. Therefore, we assume an indirect positive effect of different incentives on individual player performance through job satisfaction.

Research on incentives as antecedents of satisfaction of athletes is a well-established field in sports management literature (Doherty, 1998). However, studies in the context of elite team sports athletes are rare. Owing to the difficulty in accessing data from professional athletes, the outcomes of several monetary and non-monetary incentives remain unsettled. For an incentive to be effective, it must be valuable to the recipient and, as such, must fit the physiological and psychological needs of the player (Maslow, 1943). Therefore, identifying context-relevant incentives is crucial for ensuring satisfaction. We included five incentives in our model. With regard to monetary incentives, we included salary and monetary bonuses, two commonly used incentives in elite team sports. Although studies on the effect of salary on job satisfaction have found inconsistent results across different contexts, Judge, Piccolo, Podsakoff, Shaw, and Rich's (2010) meta-analysis shows a mean correlation of .15 between pay satisfaction and job satisfaction. To date, research has not devoted much attention to monetary bonuses. Baruch et al. (2004) were the first to discuss a possible relationship between performance-related pay and individual performance in team sports; however, Mondello and Maxcy (2009) could not confirm a significant, positive relationship between bonuses and performance at the team level. Preliminary field interviews with professional athletes revealed that most contracts include performance-related bonuses. Thus, performance-related bonuses considered fair might lead to greater satisfaction of the athletes. From these theoretical considerations and empirical indications, we postulate the following hypotheses on the effects of monetary incentives on overall job satisfaction (OJS):

H1: Salary positively affects the level of OJS.

H2: Monetary bonuses positively affect the level of OJS.

For non-monetary incentives of organizational support, we included three variables from Maier et al.'s (2013) qualitative study on the drivers for retention of professional team sports athletes: (1) integration of family, (2) second career support, and (3) private problem support. First, successful integration of players' families in the social environment of their clubs increases family well-being and thereby decreases problems between the athletes and their families. Relevant studies on family–work conflict and work–family conflict show a negative relationship to job satisfaction (Calvo-Salguero, Martínez-De-Lecea, & Carrasco-González, 2011). Therefore, integration of family might lead to greater satisfaction of athletes:

H3: Integration of family positively affects the level of OJS.

The second variable, second career support by the clubs, should limit athletes' uncertainty and anxieties about their lives after their sports career. Professional athletes appreciate direct support and supportive structures for the development of a second career (Drawer & Fuller, 2002). Accordingly, we posit the following:

H4: Second career support positively affects the level of OJS.

Third, private problem support aims to limit the challenges of everyday life (e.g., problems with paperwork), which can lead to distractions from the sport (Price et al., 2010). The reduction of private problems through club support might lead to greater job satisfaction of an athlete. Research has shown the positive effects of organizational support in general on job satisfaction in other contexts (Eisenberger, Cummings, Armeli, & Lynch, 1997; Griffin, Patterson, & West, 2001). Considering that athletes likely do not want to be distracted from their main task, their sport, we assume that private problem support has even stronger effects on OJS than perceived organizational support in other contexts. Because these organizational incentives concern the everyday lives and well-being of athletes, they likely have a direct influence on job satisfaction:

H5: Private problem support positively affects the level of OJS.

The relationship between satisfaction and performance is one of the most controversial discussions in human resource management literature. Since the beginning of human relations theory and the Hawthorne studies in the late 1920s (Schwab & Cummings, 1970), numerous researchers have discussed the intensity and direction of this relationship. The most contested aspect is the direction of the influence: satisfaction → performance or performance → satisfaction. The performance → satisfaction relationship is based on the idea that performance leads to valued outcomes, which in turn lead to satisfaction (see Vroom, 1964). Although this idea is theoretically comprehensible, the majority of studies do not find a significant relationship (Judge, Thoresen, Bono, & Patton, 2001); rather, studies have mostly found the satisfaction → performance relationship. However, the effect sizes often were relatively low. Iaffaldano and Muchinsky's (1985) meta-analysis shows a consistent effect between OJS and performance, with a mean correlation of .17. Nevertheless, consistency is lacking in different contexts, and thus if and how strong OJS influences performance of elite team sports athletes has not yet been proven. It is conceivable that players who are satisfied with their organizational environment and related incentives tend to increase effort in practice and games to maximize their performance. High individual performance increases the chance that athletes will receive a follow-up contract and thus stay in the satisfying environment of their current club. In accordance with these theoretical considerations and empirical results, we propose the following:

H6: OJS positively affects the athlete's individual performance.

Figure 1 depicts the conceptual model and suggested hypotheses of the study.

[Figure 1 near here]

Method

Participants and data collection

To increase observed variance and generalizability of the findings, the sample of our study consisted of different elite leagues in three team sports: football (league 2–3), ice hockey (league 1–3), and handball (league 1–2). Clubs were randomly selected and addressed by

league officials, who supported the project. Data was collected between February and May 2014. All teams were in the second half of the season and at least 20 days before the start of the play offs or any relegation games. This time slot assured that all new players are able to evaluate their new club and every player knows his role in the team. Further, at this time of the season, players with a very bad match to the team have left the club voluntarily or got traded in the trading window between the first and the second half of the season. Altogether, 315 professional players and 34 coaches of 19 different teams in Germany. Only four of the 319 addressed athletes refused to take part in the study (response rate 98.7 per cent), indicating that all types of players are represented in the study. The overall sample consists of 95 players from the first and second Football league, 156 ice hockey players (league 1–3), and 61 players from the first and second handball. Players were between 17 and 39 years old and have been with the club for 3.3 years on average. The mean remaining contract length of the players is 11.5 months. All participants played on a professional level, meaning that none had amateur status. Of the participants, 85% were German, and the average age was 24 years; all were male.

We used two questionnaires, one for athletes and one for coaches. Athletes answered questions on incentives and job satisfaction. As some of the questions addressed sensitive information, the data were collected at the clubs' venues, with the physical presence of at least two researchers to ensure reliability. Consequently, we assured the athletes that neither club managers nor coaches would see their answers. Coaches had to answer the questionnaire several times, to evaluate the performances of all their athletes individually. Either one or two coaches of each team needed to rate the players on six aspects. To avoid internal arguments and discussions between coaches and players, we also handled these evaluations confidently. Consequently, players had no access to their performance evaluations. Nevertheless, it was necessary to match athletes' questionnaires with the corresponding individual performance evaluation of their coaches. Therefore, we applied an innovative and rather unconventional approach of data collection. Coaches' performance evaluations were put in individual

envelopes with name tags of each athlete on them and handed back to the researchers. Athletes, waiting in a different room, then filled out their questionnaires. To prevent biased answers, athletes were not told that coaches evaluated their performance. Afterward, the athletes' questionnaires were put in the corresponding envelope, already containing their individual performance evaluation. Finally, the name tags were removed from the envelopes, to guarantee anonymity to the players.

Measures

All measures came from previous research, but we adapted the wording to the sports context. To keep the questionnaire as simple as possible for the target group, it did not contain any reverse-coded items. If necessary for contextual reasons, we modified scales on the basis of field interviews and pretests.

Recipients needed to answer all questions on a seven-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (7). Furthermore, the option 'I cannot judge' was provided to increase reliability if participants preferred not to answer sensitive questions. Questionnaires were available in German and English. We provide a brief description of the measures next and a complete overview of all items in the Appendix.

Integration of family, second career support, and private problem support

We developed all three scales through a stepwise scale development process (Netemeyer, Bearden, & Sharma, 2003) particularly for the context of elite team sports athletes. The scales consist of three to four items. The scale for integration of family includes the effort a club takes to integrate the family into its environment as well as the actual athlete. A sample item is 'My family/partner is well integrated in the environment of the club'. Second career support includes the support, structures, and opportunities a club provides to help an athlete obtain a second career. A sample item is 'My club supports me, if I try to build up a professional career besides my career as a player'. Private problem support means not only that the athletes feel supported by their clubs but also that the clubs actually solve problems and help with trivial duties of everyday life. A sample item for the scale is 'The club relieves

me by solving my non-sport-related problems'. This scale describes a more active role of the employer than existing scales for variables such as perceived organizational support (e.g., Eisenberger et al., 1997) or supervisor support (e.g., Griffin et al., 2001).

Salary and monetary bonuses

A three-item scale borrowed from Fey (2005) describes salary. A sample item is 'I am satisfied with my salary level'. We modified monetary bonuses using a version of *bonus salary* from Fey (2005). To adapt the scale to the context, we refined items and added new items. Four researchers and field interviews with six players confirmed the content validity of the adapted scale. We conducted an additional pretest to refine the scale.

OJS

Previous research has used three types of scales to measure job satisfaction. The first type is the single-item measure. Although single-item measures can reduce questionnaire length, they bear the problem of reduced reliability compared with multi-item measures (Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser, 2012). The second type entails multi-faceted satisfaction scales. Here, the measurement of satisfaction is represented by satisfaction with different kinds of job characteristics. In sports management literature, especially Riemer and Chelladurai's (1998) athlete satisfaction questionnaire has received broad recognition. One problem of multi-faceted scales is their large number of items. For example, the athlete satisfaction scale, which was developed in the context of university students and college athletes, consists of 15 dimensions and 56 items. Most of the participating clubs in our study offered only a limited time frame for data collection; thus, a multi-faceted satisfaction scale was too long. Beyond the time aspect, multi-faceted satisfaction scales are not adequate for two other reasons. First, multi-faceted scales might include aspects that are irrelevant to the individual respondent. Second, and even more problematic, the scale could omit a descriptive component, thus interfering with the affective evaluation of the given job (Tett & Meyer, 1993). Many researchers also use multi-item scales to access a global or overall evaluation of job satisfaction. Although these types of scales are rarely used in sports management

literature, they are widely used in human resource management literature. To assess job satisfaction, we used three items from Cammann, Fichman, Jenkins, and Klesh's (1983) Michigan Organizational Assessment Questionnaire. A sample item is 'In general, I like working here'.

Performance

As mentioned previously, existing measures to assess the performance of elite team sports athletes have several shortcomings. To overcome these problems, we adapted a concept of performance evaluation from the management literature. According to this concept, regardless of the context, a performance evaluation should capture the following three aspects: effectiveness, efficiency, and responsiveness (Robson, Katsikeas, & Bello, 2008). Although Robson et al. (2008) developed their scale to capture company performance rather than human performance, the concept is still relatable and easily adaptable to our context. Thus, we extracted items from their scale, adapted them to our context, and refined them through personal interviews with four researchers and several coaches. The coaches assessed the performance of their players on a six-item scale. A sample item for performance is 'The player always fulfils the tasks given to him'.

Common method bias

If the same person rates predictor and outcome variables in a survey, there is a coherent risk for common method bias in the study results (Podsakoff et al., 2003). To avoid common method bias, we used two information sources: coaches and players. Because the coaches rather than the players themselves rated performance, the key outcome variable in this study, common method bias should not affect the relationship between performance and all other variables in the study. In following the technical standards to rule out the possibility of common method bias in the relationships between the five incentives and OJS, we applied Harman's (1976) single-factor test. The factor analysis revealed the expected six factors, and none explained more than 27.6% of the variance. According to both Harman's test and the usage of different information sources, common method bias is not an issue in this study.

Analysis and results

Measure validation

We tested the validity of our measures using exploratory factor analysis via SPSS and confirmatory factor analysis with Amos for SPSS 20.0. The measurement models comprise the seven variables of the hypothesized model. We excluded the item SAL_2 from further estimations because of poor factor loading and low indicator reliability. The reduced model provides good fit to the data ($\chi^2 = 683.44$; df = 278, $p < .01$; RMSEA = .069). Factor loadings are high and significant, and all values for internal consistency (Cronbach's α) are above .77. Table 1 shows the results for the measurement model. Furthermore, we assessed discriminant validity by using Fornell and Larcker's (1981) test.

[Table 1 near here]

Tests of hypotheses

Table 2 reports the means, standard deviations, inter-construct correlations, and reliabilities. We used structural equation modeling via LISREL 8.80 to assess the research hypotheses. In particular, we used the robust maximum likelihood (ML) approach, which uses regular ML along with robust standard errors and Satorra-Bentler (1988, 1994) scaled $\chi 2$. We ran a full structural model with all hypothesized relationships. The model provided the following fit to the data: $\chi^2 = 693.73$, df = 283, $p < .01$; RMSEA = .065; NFI = .91; NNFI = .94; AGFI = .82; CFI = .95; SRMR = .06.

[Table 2 near here]

Table 3 presents the results for the investigated paths in the structural model. H1–H5 predicted positive relationships between the five incentives and OJS. While the model reveals a positive and significant relationship of monetary bonuses, integration of family, and private problem support with OJS, in support of H2 ($\beta = .13$, $p < .01$), H3 ($\beta = .19$, $p < .01$), and H5 ($\beta = .49$, $p < .01$), we could not identify significant effects of salary or second career support on OJS. Thus, H1 and H4 are not supported. Nevertheless, the used predictors explain 46% of

the variance of OJS. Consistent with the theoretical foundations, the degree of OJS greatly influences performance (R^2 = .134; OJS → PERF), in support of H6 (β = .31, p < .01).

To check for differences between the sports, we further estimated the structural model with a subset comprising ice hockey players (whereas the subsets for football and handball were too small to calculate the model). As outlined in Table 3, the results for ice hockey were consistent to the overall findings. In particular, the estimation reproduced the same significant determinants of overall satisfaction and the changes of all path coefficients of all independent variables were marginal.

Moreover, we estimated the structural model for a subsample consisting of players from lower level leagues (N=244), i.e. a subsample which excluded second league football, first and second league ice hockey and first league handball. Again, the results are generally consistent to those of the overall sample (see Table 3). However, the findings illustrate that salary becomes more important to this subset. In particular, salary demonstrates a significant path coefficient of .16, whereas in the overall model the path coefficient for salary was not significant with a path coefficient of .06.

[Table 3 near here]

Controlling the influence of the time a player has been with an organization

The longer a player stays with an organization, the greater is the chance that some of the supportive policies will have reached their goal. For example, the player's family will likely be well integrated, and the player will likely be given the opportunity to engage in a second career. However, the support of the club in solving players' problems might be most important at the beginning of a contract. Over the years, players might develop networks with people who help them effectively deal with their private lives. Therefore, a player's time with an organization (TWO) could negatively influence the effects of integration of family, second career support, and private problem support. The situation is slightly ambiguous in view of monetary incentives. On the one hand, players who are with an organization for a longer time likely value the consistency in their lives over monetary remuneration. This feeling would

lead to a decrease in the importance of salary and monetary bonuses. On the other hand, players who have proved their loyalty to an organization over several years might want this loyalty to be rewarded with increased monetary remuneration. Consequently, both effects are conceivable.

To ensure that the latter results are not due to players' TWO, we need to control for this aspect. To do so, we tested a moderation analysis of the effect of TWO on the relationship between all independent variables and OJS using PROCESS for SPSS (Hayes, 2013). Therefore, we carried out a linear regression model, including an interaction term of the independent variables and TWO, for all five relationships. The only moderating effect we could confirm is the relationship between integration of family and OJS. All other moderations were not significant at the .05 level. Table 4 shows the results for the moderation analysis of TWO on the relationship between integration of family and OJS. Moreover, it shows conditional effects for two groups of athletes. The first group, *TWO high*, represents athletes who have been with the organization for a longer time. The second group, *TWO low*, consists of athletes who have been with the organization for a shorter time. The results in Table 3 show a considerably stronger effect for *TWO low*.

[Table 4 near here]

A rival approach

A rival approach to the relationship between incentives and performance is based on Vroom's (1964) expectancy theory. According to this theory, people tend to behave in a particular way according to the expected result, which they associate with the behavior. If they deem the valence of an incentive as high, the motivation for the behavior, which leads to the incentive, increases. Thus, satisfaction with incentives is not necessary for a positive effect on performance, even though a direct relationship between the incentives, especially reward-based incentives (e.g., monetary bonuses), and performance would be assumed. We examined this possibility in a rival approach using another structural equation model. The corresponding goodness-of-fit criteria were as follows: $\chi^2 = 581.11$, df = 215, $p < .01$; RMSEA = .07; NFI =

.91; NNFI = .93; AGFI = .82; CFI = .94; SRMR = .06. The only incentive that had a significant direct effect on performance was second career support. The effects of the four remaining constructs were weak and not significant. Furthermore, the explained variance (R^2) of performance decreased to .07. These results confirm the conceptualization of the original model. Table 5 shows the results for the rival model.

[Table 5 near here]

Discussion

The purpose of this study was to investigate the relationship between incentives and performance in elite team sports. In accordance with Herzberg's (1974) theory and contextual considerations, we interpret performance as a possible consequence of incentive-induced job satisfaction. Therefore, we conceptualized relationships between different monetary and non-monetary incentives and OJS and between OJS and performance. However, most previous studies in sports management have analyzed only direct effects between incentives and performance. Consequently, we tested our hypothesized model against a rival approach that suggests a direct relationship between incentives and performance. The results of the rival approach showed weak and non-significant effects for four of the five investigated incentives. With regard to financial bonuses, the results are contradictory to those of Baruch et al. (2004), who identified a positive effect (.40) of performance-related pay on individual performance of Chinese baseball players. The reason for the contrary results might be due either to the cultural differences between China and Germany or to the methodological differences between both studies. Baruch et al. (2004) use players' self-perceptions, whereas we use the measurement approach of an external performance evaluation by coaches.

Only second career support shows a moderately significant direct effect on performance in the rival model. This effect might stem from the anxieties of athletes about their futures. Athletes can be satisfied with their job but, at the same time, afraid of getting injured, necessitating their retirement from professional sports. If athletes do not directly blame the clubs, their anxieties will not reflect on their job satisfaction. Nevertheless, their

anxieties and uncertainties towards their financial future could directly lead to decreased performance (Dowell & Singer, 2011).

Compared with the rival approach, our conceptualized model, which suggests an indirect effect between incentives and performance through OJS, provides a superior explanation. Nevertheless, the conceptualized model did not show a significant effect of salary on OJS. This is contradictory to the results of Judge et al.'s (2010) meta-analysis, which proposes a moderate mean effect of .15 between pay satisfaction and job satisfaction. These findings again show the relevance of context regarding the effectiveness of incentives. Although salary might be an appealing incentive to attract good players, it cannot stimulate a player's performance. With regard to monetary bonuses, we found a moderate positive effect on OJS. Although this study did not replicate the strong effect sizes of Baruch et al. (2004), it still shows that as a financial incentive, monetary bonuses are more effective than salary in enhancing player satisfaction. The estimation for the structural model for a subsample consisting of players from lower level leagues (see Table 3) further indicates that monetary incentives become more important to players from lower leagues. Although the increased importance is rather small, the difference is in line with theoretical assumptions which suggest that financial aspects become more important to athletes if the amount of money is hardly sufficient to earn their living. Hence, the proficiency level influences receptivity for financial incentives. Athletes of lower leagues might not be as financially settled as athletes from higher leagues. Therefore, salary may be of higher importance to them.

With regard to the non-monetary incentives, both integration of family and private problem support showed strong positive effects on OJS. With a path coefficient of .49, private problem support seems of paramount importance to the players. This result confirms the importance of creating a supportive environment in an organization and therefore adds to the results on the effects of organizational support in general from non-sports-related contexts (Eisenberger et al., 1997; Griffin et al., 2001), and especially to the recent results of the qualitative studies within the sports contexts (Kristiansen & Roberts, 2010; Nicholson et al.,

2011). Players must focus on their game, and coping with private problems distracts them from doing so. Thus, clubs need to set structures to accommodate them and to offer easily accessible assistance and problem support. The results of the effect of integration of family add to the results from other contexts on the negative relationship between work–family conflict and job satisfaction (Calvo-Salguero et al., 2011). A possible explanation for our results is that players with well-integrated families suffer from less conflict at home and thus can better focus on their job. The moderation analysis further showed increased importance of integration of family for players new to the organization. This was in line with our expectations. Especially families of new team members tend to rely on an integrative and welcoming club environment, as they usually do not have friends or family in the new city. The social environment of athletes affects their personnel needs and desires and, therefore, their susceptibility to different incentives. Thus, incorporating third-party influences (e.g., families) into research on the antecedents of performance in elite team sports is of high relevance.

These results on the importance of the integration of family receive further credibility when we consider the relationship between OJS and performance. Because satisfied athletes perform substantially better than unsatisfied athletes, it is unlikely that these players strategically decrease their performance. If we assume that a cognitive process exists between job satisfaction and performance, shirking tendencies will diminish by increasing athletes' job satisfaction through incentives such as monetary bonuses, integration of family, and private problem support. Because even a slight increase in an athletes' performance can change the outcome of the game and can make a difference in winning or losing, providing information on the effectiveness of different incentives to club managers in elite team sports is of utmost importance.

A further finding worth to highlight is the comparably strong effect of OJS on performance. While the meta-analysis of Iaffaldano and Muchinsky (1985) revealed a mean effect of .17 over different contexts, we identified an effect size of .31 for the team sports

context. This finding once again shows the relevance of context concerning the research on incentives and it further raises the question if cognitive processes as shirking or rather non-cognitive processes could be an explanation for such a strong effect size.

Contributions, limitations, and further research

This study provides three major contributions to the literature. First, the results show the importance of job satisfaction for the individual performance of athletes in the context of elite team sports. Satisfied professional athletes perform better. Because incentives are the key to job satisfaction and, therefore, to performance, club managers need to know which incentives are effective in increasing players' job satisfaction. This knowledge can be a critical factor for sporting and, consequently, economic success in elite team sports. Respectively, the relative effectiveness is important for budget allocation decisions. Second, the data set offers unique primary data of elite team sports athletes and their coaches. Accordingly, by comparing the relative effectiveness of five monetary and non-monetary incentives, we found that monetary incentives have relatively inferior importance. We also provide empirical proof for the effectiveness of integration of family and private problem support, two previously untested non-monetary incentives. Therefore, club managers should incorporate non-monetary incentives into their management repertoire, to increase their athletes' job satisfaction and, consequently, to facilitate their top performance. Third, we report apparent shortcomings of existing approaches of performance measurement in elite team sports and offer a new approach. Fourth, we introduced a research design that avoids common method bias.

This study also contains three limitations. First, the data set only consists of German elite sports teams. As the structure of amateur and professional sports in other European countries is organized in a similar way, the results should be generalizable to those countries. However, other sports systems might offer some specifications, such as salary caps or other contractual limitations. Therefore, the results need to be confirmed through further studies in these contexts. Second, similar to other subjective measurements, the proposed measurement design for the evaluation of individual performance is limited by the subjective perceptions

and performance evaluations of the coaches. Nevertheless, this downside is outweighed by the expertise and superior background information of coaches. Finally, a few words of caution should be made in interpreting the estimation results. The aim of this research was to study the relationships of monetary and non-monetary incentives, job satisfaction, and athletic performance in elite team sports. To identify the relative importance of monetary and non-monetary incentives we focused on the key aspects of monetary incentives (salary and bonuses) and non-monetary incentives (integration of family, second career support, and private problem support). As a result of this deliberate focus of this research, relevant variables explaining job satisfaction and performance might be omitted thus increasing the potential for endogeneity. Further research may tackle this issue with replication studies and identifying suitable instrumental variables. Concluding the results of this study, non-monetary incentives play a central role for the creation of a performance enhancing environment within elite sports clubs. In the future, research should continue to identify and investigate relevant non-monetary incentives for job satisfaction rather than focusing only on the effects of budgets and paychecks, because money alone cannot buy performance.

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Table 1. Results of the measurement model.

Incentives		**Outcomes**	
Factors and items	**Standardized loadings**	**Factors and items**	**Standardized loadings**
Integration of Family (IOF)		Overall Job Satisfaction (OJS)	
IOF_1	.82 (14.01)	OJS_1	.63 (10.96)
IOF_2	.84[b]	OJS_2	.83 (16.05)
IOF_3	.72 (12.95)	OJS_3	.88[b]
Second Career Support (SCS)			
SCS_1	.86 (17.89)	Performance (PERF)	
SCS_2	.90[b]	PERF_1	.80[b]
SCS_3	.77 (15.44)	PERF_2	.87. (17.90)
Private Problem Support (PPS)		PERF_3	.85 (17.09)
PPS_1	.72 (13.80)	PERF_4	.88 (18.00)
PPS_2	.81 (17.61)	PERF_5	.85 (17.19)
PPS_3	.66 (12.86)	PERF_6	.82 (16.44)
PPS_4	.90[b]		
Salary (SAL)			
SAL_1	.90[b]		
SAL_2	.70 (3.57)		
Monetary Bonuses (MB)		Model Statistics	
MB_1	.72 (11.96)	$\chi^2 = 683.44$, df = 278, $p < .01$;	
MB_2	.82[b]	RMSEA = .069	
MB_3	.71 (10.96)		
MB_4	.47 (7.87)		
MB_5	.54 (8.06)		

Note. t-values are reported in parentheses; b = Fixed parameters.

Table 2. Means, standard deviations, inter-construct correlations, and reliabilities.

Variable	1	2	3	4	5	6	7	Mean	SD
1. Overall Job Satisfaction	.82							4.59	1.46
2. Performance	.37	.89						4.87	1.34
3. Salary	.48	.18	.77					3.74	1.72
4. Monetary Bonuses	.33	.12	.28	.78				2.68	1.89
5. Private Problem Support	.64	.24	.57	.37	.85			4.23	1.77
6. Integration of family	.24	.09	.18	.16	.20	.83		3.57	1.60
7. Second career support	.16	.06	-.10	.15	.07	.10	.88	3.64	1.90

Note. Reliabilities (Cronbach's alphas) are reported on the diagonal. Coefficients > .095 are significant ($p < .05$). N = 315.

Table 3. Path coefficients for overall and subsamples

	Overall (N=315)	**Ice hockey (N=156)**	**Lower level leagues (N=244)**
	Coeff.	**Coeff.**	**Coeff.**
H1: Salary → Overall Job Satisfaction	.08	.01	.16*
H2: Monetary Bonuses → Overall Job Satisfaction	.13*	.14*	.17*
H3: Integration of Family → Overall Job Satisfaction	.19*	.16*	.20*
H4: Second Career Support → Overall Job Satisfaction	.07	.00	-.02
H5: Private Problem Support → Overall Job Satisfaction	.49*	.56*	.52*
H6: Overall Job Satisfaction → Performance	.31*	.48*	.33*
R^2 Overall Job Satisfaction	.46	.46	.51
R^2 Performance	.13	.11	.11

Note. $p < .05$; Coeff = Path coefficient; R^2 = Squared multiple correlation.

Table 4. Regression analysis examining the moderation effect of TWO on the IOF → OJS relationship.

	Coeff.	SE	t-Value	p
Constant	.00	.05	.03	.98
TWO	-.02	.01	-1.49	.14
IOF	.44	.05	8.04	.00
int_1 (TWO × IOF)	-.03	.01	-2.53	.01

	TWO (high)			*TWO (low)*		
Path	**Coeff.**	**t-Value**	**p**	**Coeff.**	**t-Value**	**p**
IOF → OJS	.32	4.78	.00	.53	7.78	.00

Note. IOF = integration of family. R^2 = .21; mean square error = .81; F(3, 23) = 18.169; p < .01.

Table 5. Coefficients and t-values of the rival approach.

Variable	Coeff.	t-Value
Salary → Performance	.11	1.74
Monetary Bonuses → Performance	.00	.05
Integration of Family → Performance	.04	.46
SCS → PERF	.18	2.60*
PPS → PERF	.05	.59

*p < .01. Note. SAL = salary, MB = monetary bonuses, IOF = integration of family,
SCS = second career support, PPS = private problem support, and PERF = performance.

Appendix

Construct and measurement items		Reliability
Integration of Family		.83
IOF_1	The club tries to make my family/partner feel well in the environment of the club.	
IOF_2	My club tries to integrate my family/partner.	
IOF_3	My family/partner is well integrated in the environment of the club.	
Second Career Support		.88
SCS_1	My club supports me, if I try to build up a professional career besides my career as a player.	
SCS_2	My club provides me with opportunities to build up prospects for the life after my active sports career.	
SCS_3	My club offers structures, which enable me to achieve further education and qualification besides the active sports career.	
Private Problem Support		.85
PPS_1	The club relieves me by solving my non-sport related problems.	
PPS_2	I can count on the persons in the club supporting me if I have problems.	
PPS_3	The club helps me with organizational or administrative matters and paperwork.	
PPS_4	I feel that I can always turn to the club when I have problems.	
Salary		.77
SAL_1	I am satisfied with my salary level.	
SAL_2	My salary is completely satisfactory for the needs of me and my family.	
Monetary Bonuses		.78
MB_1	My salary is linked to the results of the work of my team.	
MB_2	I earn more when my team works harder.	
MB_3	A large percentage of my salary consists of bonuses for the performance of my team.	
MB_4	I earn more when I work harder.	
MB_5	A large percentage of my salary consists of bonuses for my individual performance.	
OJS		.82
OJS_1	All in all, I am satisfied with my job.	
OJS_2	In general, I like my job.	
OJS_3	In general, I like working here.	
Performance		.89
PERF_1	The player always fulfils the tasks, which are given to him.	
PERF_2	The player is very effective for the game of the team.	
PERF_3	The player uses his individual skills efficiently.	
PERF_4	The player can efficiently implement the contents covered in practice in the game.	
PERF_5	The player can adapt his play quickly to a changing game situation.	
PERF_6	Whenever some unexpected situation arises, the player is capable of reacting fast and making good decisions.	