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The role of motivation in selection processes—comparing sports and business

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Talent identification and selection in sports pose significant challenges, necessitating a nuanced understanding of factors influencing athletes' elite-level potential. While physical and physiological aspects have conventionally played roles in the selection process, also other constructs of talent development have to be considered. Various talent models have included psychological aspects, especially motivation, as either moderators or catalysts. Based on empirical evidence of the relationship between motivation and performance, different views are held in which form motivation should be used for talent selection. Considering the hierarchical model of achievement motivation and self-determination theory, the importance of different motivational dimensions in talent selection is assessed. This study extends its focus beyond sports, exploring whether differences and similarities between sports and business in their selection processes exist. The objective is to discern whether scouts, coaches and recruiters prioritize motivational dimensions differently. Along with the statistical analyses [conjoint analysis, analytical hierarchy processes (AHP) and constant-sum procedures], this research aims to provide insights into the weighted importance of diverse motivational dimensions and their influence on the decision-intention of decision-makers. The study aims to provide exploratory insights into how motivational dimensions could inform talent selection processes by comparing different contexts. This research may offer a first step to further investigate practical applications for talent identification and selection processes with insights from other contexts.

KEYWORDS

personnel selection, psychological, assessment, talent, achievement goal theory, self-determination theory

Introduction

Talent identification and selection remain significant challenges in sports, requiring a comprehensive understanding of various factors influencing the likelihood of athletes reaching elite level. A successful identification of athletes is necessary to save resources, however evidence for a perfect way remains low (1).

In addition to physical and physiological performance factors, which play a central role in talent selection, further talent development variables need to be considered. Psychological characteristics, in particular motivation, can be found in numerous talent models: while Gagné [(2); Differentiated Model of Giftedness and Talent] assumes intrapersonal factors as catalysts in the process from “natural abilities” to “superior mastery of a systematically developed ability”, Hohmann [(3); based on Heller (4); Munich Model of Giftedness]

integrates non-cognitive personality traits as moderators of talent characteristics (predictors) and performance in the sport-specific talent model. Psychological aspects as potential talent predictors can also be found in sport-specific models [(5); soccer].

Extensive literature has shown the relationship between motivation and sporting success in the last years (6–9), focusing on self-determination theory (SDT), achievement motivation and achievement goal orientation. Empirical evidence supports the relevance of motivational concepts for later success and talent development in various sports (10–12). In their systematic review on future performance in soccer, Murr et al. (13) concluded that high levels of the achievement motives *hope for success* (HS) and low levels of *fear of failure* (FF) are associated with future soccer performance. A meta-analysis (6) is limiting these relationships. Small, positive effects have been found for task orientation on future football performance (*cohen's d* = .28). For ego orientation only a trivial effect on future football performance was shown (*cohen's d* = .06). For self-determination, high levels of intrinsic motivation (IM) have been found to be associated with better athletic performance in tennis, mediated through psychological need satisfaction (14). Furthermore, positive and negative affect has been shown to be a mediator in the motivation-performance relationship (15). As a combination, Zuber et al. (16) found that intrinsically achievement-oriented soccer players have a higher likelihood to become professional players. Contrarily, high levels of amotivation and external regulation seem to be associated with drop-out (17, 18) or burn-out symptoms (19). Results show a relation between the motivational concepts but also the status as distinct concepts for each of them. The findings underscore the crucial role of motivation in influencing performance (10), either directly or mediated (14). However, it remains open, whether and how it should be considered in talent selection.

Motivation theories

Recent emphasis has shifted to a combination of the hierarchical model of achievement motivation (20) and self-determination theory [SDT; (21)] to examine competence from a motivational perspective (22, 23). Competence thereby describes the desire to feel effective in interactions with the environment through tasks that are appropriate to one's developmental level (24).

The three overarching concepts are the (1) achievement motivation, according to Atkinson (25) and McClelland (26), including the motive to achieve success (HS) and the motive to avoid failure (FF). These needs are seen as motivational dispositions, which explain how people perceive and evaluate situations. The second concept (2) are motivational orientations, which guide actions towards certain goals (22), and are most subdivided into task and ego orientation (27). Within the achievement goal theory (AGT) task orientation describes mastering a task with an individual reference norm, while ego-oriented individuals are motivated by outperforming others. The disposition of *HS* thereby leads to task goals, while *FF* is associated with an ego goal orientation. Both orientations further have an impact on the intrinsic motivation [IM; task goal orientation has a positive effect,

ego goal orientation a negative one; (20)]. Furthermore, (3) SDT explains reasons for motivated behavior through the extend of self-determination (21) ranging from amotivation (no behavior) to extrinsic motivation (behavior based on rewards) to intrinsic motivation (behavior based on its own sake). While these aspects are not mutually exclusive, understanding their interplay is essential for effective talent identification. Within the three concepts the degree of disposition varies. While the achievement motivation is dispositional, achievement goal orientations are influenced by these and further dependent on the competence expectancy one has (20). Self-determination has the least state proportion as it is situational and a result of the evaluation of competence, autonomy, and relatedness [basic psychological needs theory; (28)].

Motivation in business

Next to the theoretical foundation of motivation in talent research as well as the empirical evidence of its relationship with performance, other domains have found a similar picture. In the business domain, the picture shows a different emphasis but similar results. Compared to other motivational concepts, IM has been widely studied in the business domain. From an organizational perspective, employees with IM might be beneficial to recruit, as IM fosters volunteering and prosocial behavior (29, 30). It further mediates the relationship between prosocial behavior and performance (31) and leads to increased engagement in organizational citizenship behavior (32, 33). Further, IM was ranked as the third important soft skill after *hardworking* and *reliable* (34). Further motivational research was investigating the relationship between need for achievement (nAch) and job performance, finding a positive relationship (35). Elliot and Harackiewicz (36) showed positive effects of learning (mastery) goal orientation and neutral or negative effects of performance goal orientation. A further distinction of performance goal orientation in performance-prove (demonstrating ability through superiority of others) and performance-avoid (trying to avoid negative outcomes) orientation revealed a positive prediction of sales performance for the first mentioned and a negative prediction of performance for the latter (37). The results show that the simultaneous adaption of different aspects may lead to optimal performance, in comparison to the complete absence of one or the other.

Sports and business

Comparing the domains of sports and business regarding selection processes at first glance, both domains share the aim of finding the most talented people for their organization to become successful through engaging in systematic selection processes. On closer examination, additional similarities and differences emerge. Both domains use reliable methods to assess valid constructs to predict future performance, often through multi-stage processes that combine objective data through tests [e.g., (38, 39)] as well as the assessment and decision of scouts, coaches and recruiters (39, 40). However, differences also arise, such as the age at which talent is typically selected and the focus on cognitive skills in

business vs. physical skills in sports. Notably, parallels exist in the importance of psychological constructs (41, 42), though it remains unclear, whether these are assessed and valued similarly, potentially pointing to either convergence or divergence in selection practices.

Although the influence of various motivational dimensions on performance has been proven in both domains, in sport as well as in business, the systematic integration of motivation into the selection process has so far been insufficient. To date, the importance of the different dimensions of motivation has only been considered unsystematically in talent selection. The correct recording and assessment of various motivational dimensions is therefore important, as it can both increase the efficiency of the selection process and ensure the long-term success and satisfaction of the selected individuals. As motives refer to internal thoughts and emotions, they are difficult to observe [e.g., (43)]. Although tools to assess achievement-motivated behavior by coaches exist (44), in practice coaches are still asked to assess players' psychological characteristics on unstructured evaluation sheets (45). It remains open how recruiters and scouts evaluate the importance of different dimensions of motivation in selection contexts specifically. Especially the theoretical differentiation of motivation in its different dimensions seems to be overlooked in research and practice. To date there is no evidence, which aspects of motivation are mostly prioritized by recruiters and scouts.

As in both domains the decisions of recruiters and scouts are often subjective and intuitive (46, 42), decision-makers are often not able to explicitly reconstruct their decision-process (47). Especially if different selection factors are considered, the individual importance (weighting against other factors) is often still unclear. Therefore, indirect measurements, such as conjoint-analysis (48) or multiple criteria decision-making processes [e.g., Analytical Hierarchy Process; (49)] to assess the prioritization may be beneficial. Furthermore, a comparison to direct measurements can provide information about possible differences in prioritization and thus help to clarify the decision-making process for coaches, scouts and recruiters. Given these apparent parallels, a closer examination of the two domains promises first insights into shared principles and domain-specific adaptations in talent selection.

Aim of the study

Based on the presented empirical evidence, we will assess which dimensions of motivation are seen as important by decision makers to gain a deeper understanding of the priorities in selection contexts and potential differences in the prioritization of motivational dimensions. A previous citation network analysis reveals the disconnection between talent selection in sports and business.¹ Factors, like different approaches to psychological

aspects, such as motivation, may explain this disconnection. We further assess whether the importance differs between scouts/coaches and recruiters when rating the same population (job applicants or athletes) or whether the ratings are stable within decision-makers, independently of the rated population.

Therefore, our study attempts to assess (1) the perceived importance of different dimensions of motivation (i.e., hope for success, fear of failure, ego orientation, task orientation, intrinsic motivation, extrinsic motivation) of decision-makers in talent selection (Research Question 1; RQ). We further investigate whether the perceived importance depends on (RQ 2.1) the domains (sport vs. business), (RQ 2.2) varying expertise of the decision makers, (RQ 2.3) contexts within the decision-maker or (RQ 2.4) whether they are rated directly or indirectly, via the selection of profiles. This will be investigated against teachers, which represent a baseline of decision-makers not related to sports or business.

Because of the intuitive decision-making (47) and the difficulty to explicitly state the decision process, the importance of motivational dimensions will be assessed indirectly and directly. Therefore, three different dependent variables (dv) will be assessed: (a) an implicit weighting for each motivational dimension, indicating how important this dimension is relative to the other dimensions, (b) the relative importance of each motivational dimension through an indirect measurement and (c) the direct assessment of the importance of the motivational dimensions.

This research aims to provide insights into the importance of different motivational dimensions in selection processes across sports and business, seeking to explore potential transferable principles that could contribute to a deeper understanding of selection strategies. This may encourage to re-evaluate existing practices, e.g., assessed motivational dimensions and assessment methods. Furthermore, the understanding of how professionals from different domains evaluate motivational dimensions may also lead to further investigation on the alignment of candidates' qualities and the specific demands of each context as well as the goal of the selection.

Methods

Participants

For participation in the study, three groups of individuals will be recruited: coaches and scouts from the sports domain, individuals with recruitment experience from the business sector and teachers. Teachers will constitute the control group, as they are not influenced by domain-specific aspects and therefore allow for comparisons between experts and novices. Participants must be at least 18 years old and must be at least in the middle-to-expert-stage, i.e., a minimum of five years of experience in selection in sports or business. To be consistent, coaches and scouts have to work within team sports, e.g., football, basketball, etc. and need to be involved in the selection of youth academies or squads, as higher selection processes are more in alignment with personnel selection in business. Recruiters need to work in

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at least medium-sized companies to ensure structured selection procedures. Teachers must have completed their teacher traineeship to make sure that they have relevant experience in their field as well. Participant collection will be facilitated using the snowball sampling (50) and via social media. Snowball sampling is executed by making initial contact with personal contacts of the authors and active engagement with sports associations, businesses, and schools. Within the invitation the link for the survey is directly included as well as the invitation to distribute the survey to their own network.

Measurement procedures

To assess the three dv of the importance of the motivational dimensions different procedures will be conducted: conjoint analysis, analytical hierarchy process and constant-sum procedure. All three methods assess the relative importance of the motivational dimensions, differing in the directness of the query (from indirect to direct).

Conjoint analysis

To assess preferences and attitudes towards profiles of players and job applicants, a choice-based conjoint analysis is to be conducted. Conjoint analyses, frequently utilized in marketing research to assess consumer preferences or attitudes towards products and multi-attributive concepts (48) involve examining individual responses to discern people's preferences, relative importance, or priorities regarding the features of the object through statistical techniques. In contrast to explicitly soliciting preferences, conjoint analysis conceptualizes decision-making as a process involving trade-offs among various multi-attribute products or services (51). In this study, conjoint analysis will be adapted to the context of selection by evaluating profiles of both athletes and job applicants. The profiles exhibit varying manifestations across the motivational dimensions, specifically ego orientation, task orientation, hope for success, fear of failure, extrinsic motivation and intrinsic motivation. The gradations in motivational dimensions are demarcated as high, medium, and low, representing relative scores of questionnaires compared to "the other applicants/athletes". Participants will be tasked with choosing the most suitable profile among three options, mimicking subjective decision-making processes akin to actual selection scenarios. The full factorial design holds 729 profiles ($n = 3^6$). The experimental design will include 27 profiles, which have been calculated with R Studio. The orthogonal design shows an acceptable fit with a *d-efficiency* = .876 (52).

Analytical hierarchy process

The Analytic Hierarchy Process (AHP) is a general theory of measurement (49) and is widely used for multiple criteria decision making (53). It is a method of decision making that allows for both deductive and inductive thinking without the use of syllogisms. Comparative judgments are made by comparing each element to every other element and assigning a numerical

value to represent the relative importance of each element. Synthesis of priorities involves combining the judgments made at each level to arrive at an overall priority for each element in the hierarchy. It is used to derive ratio scales from both discrete and continuous paired comparisons. In the present study, elements represent the different dimensions of motivation (hope for success, fear of failure, intrinsic motivation, extrinsic motivation, ego orientation, task orientation) which are represented through items from validated questionnaires (Table 1). Every element (dimension of motivation) is given a paired comparison with every other element, resulting in $n(n-1)/2$ direct comparisons with n elements. Participants are tasked with appraising each pairwise comparison on a nine-point scale, reflecting relative importance to both sides [-4 = extremely more important (left side); 0 = identical or minimal differences in importance; 4 = extremely more important (right side); (49, 60)]. A higher numerical value signifies a more substantial disjunction in significance. We will use a 9-point scale, compared to an 18-point-scale as in the original work by Saaty (49) which is common in consumer research (60). Numeric values will be transformed. Comparisons will be randomized. Results will show the prioritized rankings, providing a clear hierarchy of the elements based on their relative significance to recruiters, scouts and teachers. Compared to conjoint analysis, the analytical hierarchy process allows for more explicit decision making by choosing only between two individual aspects and can therefore be seen as a variable-oriented approach as every dimension is rated solely against another dimension. Preferences for motivational dimensions will be, compared to conjoint analysis, assessed directly as dimensions will be rated against each other.

Constant sum procedure

To assess the explicit subjective significance assigned by recruiters, coaches and scouts to motivational dimensions, constant sum procedures will be implemented as another variable-oriented approach. Participants will be tasked with allocating a total of 100 points across the six dimensions of motivation depending on their subjective importance. A higher number of points represents a higher importance. The outcomes will not only unveil an importance ranking for the dimensions but will also provide relative importance ratings among these dimensions.

Sample size

The required sample size is calculated and reported for conjoint analysis. This is done for three reasons: (1) conjoint analysis will be the predominant analysis of the study, (2) the AHP has the advantage of small sample sizes to achieve statistically robust results (61) and (3) the calculated sample size for the constant sum procedure is smaller than for conjoint analysis.

Therefore, an *a priori* power analysis was conducted using *cjpowR* in R Studio (62). According to Hainmueller, Hopkins, and Yamamoto (63), the average marginal component effect (AMCE) is the most commonly examined causal quantity in conjoint experiments. An alpha of .05 and *AMCE* = .02 was used.

TABLE 1 Items for motivational dimensions and respective questionnaires for the analytical hierarchy process.

Theory	Dimension	Field	Item	Item Nr.	Questionnaire
Achievement Goal Theory	Task orientation	Sport	I feel most successful in sport when I enjoy learning something new.	1	Transferred from task and ego orientation at work questionnaire [TEOWQ; (54)]
		Business	I feel most successful at work when I enjoy learning something new.	5	Task and ego orientation at work questionnaire [TEOWQ; (54)]
	Ego orientation	Sport	I feel most successful in sport when I am the only one who has mastered the skill.	2	Task and ego orientation questionnaire in sports-German [TEOSQ-D; (55)]
		Business	I feel most successful at work when I am the only one who can do the job.	1	Task and ego orientation at work questionnaire [TEOWQ; (54)]
	Hope for success	Sport	I like sporting challenges that I don't know exactly whether I can complete.	5	Achievement motive scale sport [AMS-S; (56)]
		Business	I like tasks at work that I don't know exactly whether I can complete.	5	Transferred from achievement motive scale—sport [AMS-S; (56)]
	Fear of failure	Sport	I feel uncomfortable doing something in sport if I'm not sure that I'll succeed.	21	Achievement motives scale—revised (57)
		Business	I feel uncomfortable doing a new task at work if I'm not if I am not sure that I will succeed.	21	Achievement motives scale—revised (57)
Self-determination theory	Intrinsic	Sport	I do sport because I like the feeling of being completely immersed in an activity.	25	German version of the sport motivation scale [SMS28; (58)]
		Business	I do the job because I enjoy my work.	Intrin2	Multidimensional work motivation scale (59)
	Extrinsic	Sport	I do the sport because it gives me respect from people I know.	6	German version of the sport motivation scale [SMS28; (58)]
		Business	I do this job because it gives me security.	16	Multidimensional work motivation scale (2)

To ensure the validity of the items, pre-validation was carried out. For this aim, individual items were presented to experts in the field of motivation and asked to assign the items to the different theories. Items ranked as not fully clear were rephrased through discussions with experts.

Based on three levels, 27 profiles and nine tasks, results showed a total sample size of 121 respondents resulting in $n = 40$ respondents for each group to reach a power of .08. As the small population of scouts within higher team sports is limited, we further follow recommendations of Orme (64) to collect a representative number of the population.

Procedure

The survey will be administered in the form of an online questionnaire. Preliminary to the survey initiation, a comprehensive elucidation of the study's procedural aspects will be provided, accompanied by a requisite privacy declaration. The questionnaire comprises several segments, which, aside from nuances in the mode of address, are analogous for recruiters, scouts, and teachers (see Figure 1). To facilitate cross-contextual comparisons, all three participant cohorts will be presented with thematic blocks encompassing sports-related and corporate applicant scenarios. For sports scenarios, the selection for the U19 national team was chosen. The equivalent for the business context is to decide for a project-management position with three years of experience. These scenarios were chosen because both seem to be shortly before a final job position. Based on their predominant job, participants will be introduced to their field of expertise. In the inaugural section, participants will get an introduction to the scenario (being a recruiter/scout) and an explanation of the different dimensions of motivation. Afterwards they will be presented various profiles within the conjoint analysis. Profiles will be presented randomly on nine pages with three profiles each. Preferences for motivational

dimensions will be assessed indirectly via the selection of profiles within a decision-making process. Subsequently, the ensuing section introduces pairwise comparisons of the six motivational dimensions, employing the AHP. The final section solicits respondents' perspectives on the relative importance of the dimensions. Subsequently, participants will receive an introduction to the respective other field, with again, a reminder of the explanation of the different dimensions. For teachers, the blocks will be randomized, ensuring that half of the participants start with evaluating athletes and half of them with the evaluation of applicants. At the end, the collection of demographic data, encompassing variables such as gender, age, title, professional tenure, vocational training, and supplementary qualifications will ensue.

Statistical analysis

Results will be generated using R Studio. For the conjoint analysis the package *cregg* in R will be used (65). Analysis of the AHP will be conducted using the package *ahpsurvey*. For AHP, consistency ratio (CR) will be calculated to ensure that pairwise comparisons are consistent. A $CR < 0.1$ is seen as acceptable (66). If CR is > 0.1 , judgements will be revised to reach consistency (67). Prior to conducting the inferential statistical analyses, assumption checks will be performed according to the respective procedures. The significance level for all statistical tests will be set at 0.05.

To answer RQ1 a–c, for the conjoint analysis, marginal means will be calculated (68). These values represent the average outcome for a specific conjoint feature level, averaged across all other

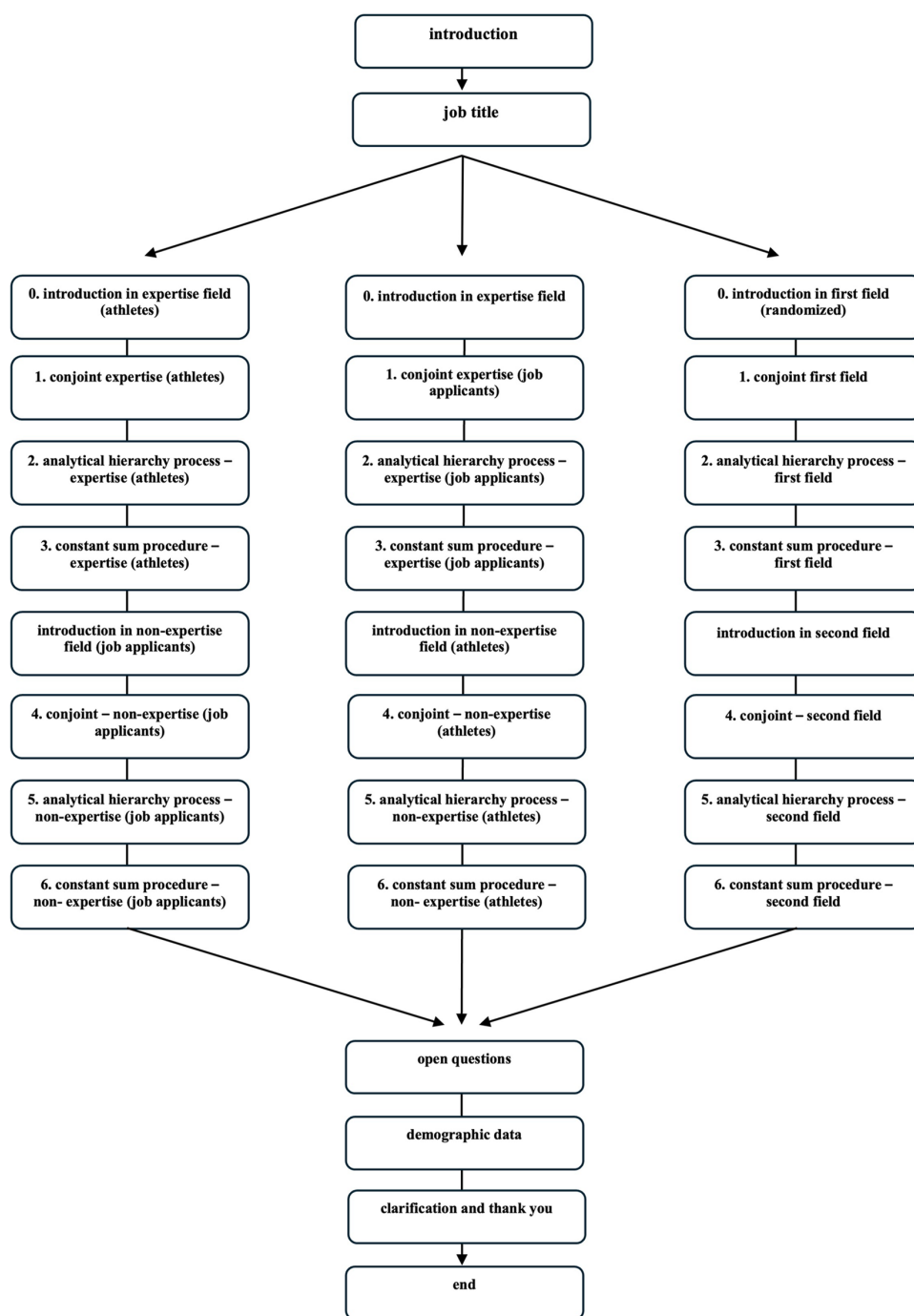


FIGURE 1 Schematic process of the survey.

features. Furthermore, we will estimate the average marginal component effects (AMCEs). AMCEs indicate the average change in the probability of choosing a candidate when one attribute level is switched to another (63). The relative importance and rankings for all attributes will be calculated for the AHP and the constant-sum procedure for each group (scouts, recruiters, teachers) as well as their aggregation. Results will be presented individually as well as grouped for all three methodological approaches.

To answer RQ 2.1 a-c (difference between domains sports vs. business) an ANOVA will be calculated individually for each method (68). The dependent variable will be the decision of the participants, the independent variables will be groups and motivational dimensions. If a significant result occurs, the differences between the dimensions will be described descriptively post-hoc.

To answer RQ 2.2 a-c, Chi²-tests will be calculated for “applicants” and “athletes” for each method.

To answer RQ 2.3 a–c, Chi²-tests will be calculated for “scouts” and “recruiters” for each method.

To answer RQ 2d, a ranking-order for each participant for each method ($n = 3$) and for each rating group (applicants, athletes; $n = 2$) will be calculated. Chi²-tests will be calculated by the differences between each method within each rating group (3×2).

Data availability statement

No data was collected so far. Once data has been collected it will be made available in the Open Science Framework (OSF).

Ethics statement

The study is approved by the Ethics Committee of the corresponding author's university. The participants will need to provide their informed consent to participate in this study.

Author contributions

BB: Conceptualization, Methodology, Project administration, Writing – original draft, Writing – review & editing. DD: Conceptualization, Supervision, Writing – review & editing. OH: Supervision, Writing – review & editing. BS: Supervision, Writing – review & editing.

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