

UNRAVELING THE BOND: GROUP COHESION AND SOCIAL IDENTITY IN PROFESSIONAL RUGBY UNION

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Abstract

This study investigates the relationships between three dimensions of social identity (cognitive centrality, ingroup ties, and ingroup affect) and four dimensions of group cohesion (individual attractions to the group social, individual attractions to the group task, group integration-social, and group integration-task) within a professional rugby team. Thirty-eight male players $M_{age}=24.86$; $SD=4.13$ participated in semi-structured interviews following a six-week pre-season period. Qualitative analysis identified 706 meaning units, which were analyzed using Pearson's Chi-squared tests to examine the associations between the dimensions of social identity and group cohesion. Results revealed significant associations, particularly between ingroup ties and group integration, and between cognitive centrality, ingroup affect, and individual attractions to the group – task ($\chi^2 = 34.3$). These findings advance the literature by integrating the social identity approach with the study of group cohesion, highlighting how different aspects of social identity contribute to a more comprehensive understanding of cohesion in sports teams. This study demonstrates that considering social identity dimensions can complement traditional cohesion models, offering deeper insights and suggesting targeted interventions to enhance team dynamics and performance in professional sports.

Keywords: Group cohesion; social identity; Team dynamics; Professional rugby

Resumen

Este estudio investiga las relaciones entre tres dimensiones de la identidad social y cuatro dimensiones de la cohesión del grupo en un equipo profesional de rugby. Treinta y ocho jugadores ($M_{edad}=24.86$; $DE=4.13$) participaron en entrevistas semiestructuradas tras un período de pretemporada de seis semanas. El análisis cualitativo identificó 706 unidades de significado, analizadas mediante pruebas de Chi-cuadrado de Pearson para examinar las asociaciones entre las dimensiones de la identidad social y la cohesión del grupo. Los

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resultados revelaron asociaciones significativas entre los lazos del grupo y la integración del grupo, y entre la centralidad cognitiva, el afecto del grupo y las atracciones individuales hacia el grupo – tarea ($\chi^2 = 34.3$). Estos hallazgos integran el enfoque de la identidad social con el estudio de la cohesión del grupo, destacando cómo diferentes aspectos de la identidad social contribuyen a una comprensión más integral de la cohesión en los equipos deportivos. Este estudio demuestra que considerar las dimensiones de la identidad social puede complementar los modelos tradicionales de cohesión, ofreciendo perspectivas más profundas y sugiriendo intervenciones específicas para mejorar la dinámica del equipo y el rendimiento en deportes profesionales.

Palabras clave: cohesión del grupo, identidad social, dinámica de equipo, rugby profesional.

Resumo

Este estudo investiga as relações entre três dimensões da identidade social e quatro dimensões da coesão do grupo dentro de uma equipe profissional de rugby. Trinta e oito jogadores masculinos ($M_{idade}=24.86$; $DP=4.13$) participaram de entrevistas semiestructuradas após um período de pré-temporada de seis semanas. A análise qualitativa identificou 706 unidades de significado, que foram analisadas por meio de testes de independência Qui-quadrado de Pearson para examinar as associações entre as dimensões da identidade social e a coesão do grupo. Os resultados revelaram associações significativas, particularmente entre os laços do grupo e a integração do grupo, e entre a centralidade cognitiva, o afeto do grupo e as atrações individuais pelo grupo – tarefa ($\chi^2 = 34.3$). Estes achados avançam na literatura ao integrar a abordagem da identidade social com o estudo da coesão do grupo, destacando como diferentes aspectos da identidade social contribuem para uma compreensão mais abrangente da coesão em equipes esportivas. Este estudo demonstra que considerar as dimensões da identidade social pode complementar os modelos tradicionais de coesão, oferecendo perspectivas mais profundas e sugerindo intervenções específicas para melhorar a dinâmica da equipe e o desempenho em esportes profissionais.

Palavras-chave: coesão do grupo, identidade social, dinâmica de equipe, rugby profissional.

Introduction

In the field of sport psychology, group dynamics have been extensively explored through the concept of group cohesion. For many years, researchers

have considered group cohesion as one of the most critical variables in the functioning of small groups, particularly in team sports (Carron et al., 1985; Evans et al., 2020; Pescosolido & Saavedra, 2012). Recently, social identity has emerged as another key element in understanding group dynamics (Haslam et al., 2020). While both group cohesion and social identity are crucial for fostering positive group dynamics, they represent distinct constructs. Group cohesion refers to the bonds that hold a team together and the members' commitment to the group's goals and social unity (Carron et al., 1998), whereas social identity involves the individual's perception of belonging to the group and the value and emotional significance attached to that membership (Tajfel, 1978). This study aims to explore the complementary relationship between group cohesion and social identity within a professional rugby union team, providing a deeper understanding of how these constructs interact to enhance team dynamics and performance.

According to Carron et al.'s (1998) multidimensional model of cohesion, group cohesion is defined as "a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs" (p.213). This conceptualization integrates both behavioral and cognitive dimensions, thereby encompassing the complex and multifaceted nature of group processes. The model underscores the significance of cohesion's orientation—whether task-oriented or social-oriented—relative to group members' perceptions of integration (i.e., how they perceive the group as a whole) and attraction (i.e., their desire to be part of the group). Specifically, group cohesion is delineated by four dimensions (Carron et al., 1998): (a) group integration-task, which pertains to the perceived closeness and similarity of the team concerning its goals or objectives; (b) group integration-social, which involves the perception of the team's unity as a social entity; (c) individual attractions to the group-task, reflecting the athlete's attitudes and emotional attachment towards the team's goals; and (d) individual attractions to the group-social, denoting the athlete's attitudes and emotional attachment towards developing and maintaining social relationships within the team.

Empirical evidence has consistently demonstrated that enhanced group cohesion is associated with various positive outcomes, including increased sport satisfaction, heightened harmonious passion, and reduced anxiety (Gu & Xue, 2022; Prapavessis & Carron, 1997; Spink et al., 2005). Despite the extensive body of literature affirming the key role of cohesion as a critical group dynamic variable influencing performance (e.g., Braun et al., 2020; López-Gajardo et al.,

2023; McEwan & Beauchamp, 2014), there remains a pressing need to broaden the theoretical framework of cohesion to encompass additional variables that shape group dynamics in sports settings. In this way, Eys and Brawley (2018) have notably called for an expanded investigation into the antecedents and correlates of group cohesion, highlighting the necessity of integrating other psychosocial constructs.

One such construct is social identity, which offers a complementary perspective for understanding the intricacies of group cohesion. The integration of social identity into the study of group cohesion is not merely additive but provides a synergistic framework that can elucidate the underlying mechanisms driving group unity and performance. Indeed, social identity is defined as "that part of an individual's self-concept which derives from his/her knowledge of his/her membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel, 1978, p.63). This definition underscores the cognitive processes involved in self-conception and group affiliation. The Social Identity Approach (SIA; Haslam, 2004), which is based on Self-Categorization Theory (Turner et al., 1987), posits that individuals define and categorize themselves at both personal ("I") and social ("We") levels. Particularly, social identity can be conceptualized through three dimensions (Bruner & Benson, 2018): (a) cognitive centrality, representing the importance of being a group member; (b) ingroup affect, referring to the positive emotions arising from group membership; and (c) ingroup ties, involving the perceived similarity, bonding, and belongingness among group members. When group members develop a strong sense of social identity, they are more likely to feel connected to one another, adhere to group norms, and cooperate to achieve shared goals (Evans et al., 2023; Stevens et al., 2017).

Therefore, it is plausible to suggest parallels between social identity and the components of group cohesion described by Carron et al. (1998). For instance, recent studies in sport have highlighted the significant impact of social identity on various performance-related variables, such as competitive emotions (Campo, Champely, et al., 2019; Tamminen et al., 2016), intergroup behaviors and performance (Haslam et al., 2020; Rees et al., 2015), and leadership (Slater, 2023; Slater et al., 2019). These findings thus suggest that a strong social identity may enhance the perception of group integration-task and group integration-social, fostering a sense of unity and shared purpose within the team. Also, cognitive centrality might align with the individual attractions to the group-task dimension of cohesion, reflecting the personal significance and commitment to the team's objectives. As for ingroup ties, this social identity dimension may also support the social aspects of group cohesion (Cameron, 2004).

While group cohesion is characterized by the behavioral connections between team members, social identity focuses on the individual's perception of belonging and the sense of unity it fosters (Turner et al., 1987). This potential connection between social identity and group cohesion highlights the importance of integrating these constructs to better understand how they interact to promote effective team dynamics. Exploring the interplay between group cohesion and social identity is thus important for enhancing intra-team relationships and overall team performance. Recent studies in sport psychology have underscored the positive associations between group cohesion and social identity (e.g., Chamberlain et al., 2021; Evans et al., 2023). Similarly, Bruner et al. (2014) demonstrated that social cohesion mediates the relationship between ingroup ties and intergroup behaviors, including prosocial and antisocial teammates behaviors. Additionally, research on identity leadership in sport has revealed that shared leadership among players can enhance athletes' team identification, thereby fostering both task-oriented and social-oriented cohesion (Fransen et al., 2016; Worley et al., 2020).

While it is possible to suggest parallels between social identity and group cohesion, this also implies potential confusions. The overlapping nature of these constructs may lead to ambiguities in how they are operationalized and measured, which could obscure the distinct contributions of each to team dynamics. Therefore, it is crucial to delineate clearly between the dimensions of social identity and those of group cohesion to avoid conflating the constructs and to better understand their unique and combined effects on team performance. However, the literature remains relatively sparse in examining the connection between group cohesion and social identity, particularly in the context of sports.

Indeed, the existing studies have predominantly focused on social and task cohesion, often neglecting the dimensions of integration and attraction (Bruner et al., 2014; Cameron, 2004; Chamberlain et al., 2021). This narrow focus has limited our comprehensive understanding of the associations between the specific dimensions of social identity and those of cohesion. To the best of our knowledge, only Worley et al. (2020) have measured the four dimensions of cohesion in relation to social identity. Their study, which examined the relationship between peer servant leadership, social identity, and group cohesion, found correlations between the four dimensions of group cohesion and the three dimensions of social identity. These preliminary results have opened a significant avenue for scientific investigation. The initial

descriptive relationships now necessitate a deeper understanding to better grasp the interplay between cognitive and behavioral engagement within group dynamics. Further exploration is required to fully comprehend the intricate connections between group cohesion and social identity.

Particularly, given the complexity and multidimensional nature of both group cohesion and social identity, there is a compelling need for methodologies that can capture these nuances more effectively. Traditional quantitative methods, while valuable for identifying patterns and correlations, often lack the depth required to fully understand the lived experiences and complex perceptions athletes have regarding these constructs. Qualitative approaches allow researchers to delve deeply into these experiences, providing rich, detailed insights that are not easily captured through surveys or other quantitative measures (Tamminen et al., 2016). In-depth interviews may thus help to explore how athletes perceive and express the concepts of cohesion and social identity in their own words. Accordingly, this study aimed to uncover the relative importance of different dimensions of these constructs and how they overlap and interact in the minds of athletes. By seeking a nuanced understanding of these dynamics, it provided detailed insights into the associations between group cohesion and social identity, revealing aspects that might be overlooked by more rigid quantitative methods. This study specifically aims to explore the associations between athletes' perceptions of the three dimensions of social identity (i.e., cognitive centrality, ingroup affect, and ingroup ties; Cameron, 2004) and the four dimensions of group cohesion (i.e., individual attractions to the group - task, individual attractions to the group - social, group integration - task, and group integration - social; Carron et al., 1998).

Based on previous research (Bruner & Benson, 2018; Bruner et al., 2014; Cameron, 2004), we hypothesize that participants will more frequently describe associations between ingroup ties and the four dimensions of cohesion compared to the other two dimensions of social identity. Additionally, we anticipate that participants will more frequently describe associations between attraction to group-task and the three dimensions of social identity than with the three other dimensions of group cohesion.

Methods

To provide a detailed assessment of the processes involved in social identity and group cohesion, a qualitative approach was employed. The use of a qualitative method enables the exploration of subtle nuances between the dimensions of these two concepts that cannot be captured by questionnaires. Additional quantitative analyses were implemented, allowing a deeper understanding of connections, moving beyond the mere quantity of Meaning Units (MUs). Recent debates propose that researchers clarify their ontological stance (for more detail regarding epistemology, ontology, and the need of clarified stances, see McGannon et al., 2021; Poucher et al., 2020). Given that the use of quantitative methods strongly aligns with a realist epistemology, our position in this study concurs with that perspective. For this study, we posit that there is an underlying reality encompassing well-established identity processes and cohesion constructs. Consistently, we utilized a top-down approach to categorize MUs derived from the interviews into dimensions of cohesion and social identity.

Participants

A total of 38 semi-professional male rugby union players aged 18-34 ($M = 24.86$; $SD = 4.13$) participated in this study. All of them were members of the same team competing at the third French national level. Twenty of them had been with the team the previous season, while the rest had been recruited during the inter-season period ($M_{\text{team seniority}} = 1.13$; $SD = 1.80$). These players trained for approximately 4-5 hours each day during the six-week pre-season period.

Data collection

The research was conducted in accordance with international ethical guidelines that are consistent with American Psychological Association norms and the Declaration of Helsinki (World Medical Association, 2013). The protocol was implemented during the players' pre-season training period, as group cohesion and social identity processes were major concerns of the team coaches. The head coach was contacted prior to data collection to explain the procedure. After agreeing to participate, the players were informed of the study, with the assurance that their answers would remain confidential and that only general feedback would be given to the coaches by the fourth author, who was introduced as a sport psychology expert at the beginning of the pre-season.

In this study, following a top-down approach, a semi-structured guide was developed based on interviewing guidelines described in the literature (Smith & Sparkes, 2017; Uphill & Jones, 2007) using Carron's et al. (1985) and Cameron's (2004) theoretical models. It was composed of general questions about group cohesion (e.g., How could you define group cohesion?; How do you feel group cohesion during this pre-season?; Do you meet players of your team out from the stadium?) and about multiple athletes' social identities (e.g., Do you feel as a rugby player or a [club's] player?; How is your team important

in your own identity?; Do you think "rugby" at home?). The interview guide was first pilot-tested with an athlete who did not participate in the current study, and was validated.

Data collection consisted in 38 semi-structured face-to-face interviews during the latter half of the pre-season, each lasting an average of 45 minutes, ranging from 32 to 67 minutes, to avoid any potential influence of competitive results on the narrative. The interviews were conducted by the fourth author of the study, a former rugby player who had been involved in designing the pre-season program with the coaches but was not involved in players' training or team selection. His position in the staff helped with participant recruitment and to establish rapport/facilitate dialogue during the interviews. The interviewer's cultural background was seen to be beneficial in establishing rapport and providing empathy for the participants' experiences (Giacobbi et al., 2004). To grant participants maximum freedom and neutrality in their responses, the interviewer utilized the participants' own words, he was also trained in qualitative interviews and the use of probing questions, allowing them to more fully explain their responses and explore different topics in greater detail (Krueger & Casey, 2000; Patton, 2002; Smith & Sparkes, 2017).

Data Analysis

The interviews were audio-recorded and transcribed verbatim resulting in a data corpus of 201 pages (single interline, Times 12). Players were assigned pseudonyms in the form of a number (e.g., P1, P2, ..., P38) to ensure their anonymity. A deductive content analysis of the elementary MUs was performed. Data were analyzed and independently coded by the second and the fourth authors who are trained in qualitative research, based on Miles and Huberman's (1994) recommendations which suggest an initial complete proofreading of data. Specifically, the identified MUs were coded according to the four dimensions of group cohesion (Carron et al., 1985) and the three dimensions of the social identity (Cameron, 2004). MUs could be coded as exclusive MUs or overlapping MUs. MUs are called exclusive if they only belong to one dimension of a model (i.e., one of the four dimensions of group cohesion, or one of the three dimensions of social identity). MUs are called overlapping if they belong to two dimensions from the same model (i.e., intra-model associations) or from two different models (i.e., inter-model associations). Overlapping MUs from two different models were considered as indicating relationships between cohesion and social identity. These MUs were gathered in higher order themes named after the specific dimensions of cohesion and/or identity they referred to.

Furthermore, we sought to analyze the associations through a quantitative approach to qualitative data. This mixed-methods approach allows for the systematic measurement and statistical analysis of qualitative insights, enhancing the reliability and validity of the findings (Biesta, 2021 & Leech, 2005). By quantifying qualitative data, researchers can identify patterns and relationships that might not be evident through purely qualitative methods, thereby providing a more comprehensive understanding of complex phenomena (Campo et al., 2017; Sandelowski, 2000). Here, the number of exclusive and overlapping MUs has been calculated. Furthermore, the frequencies of overlapping MUs corresponding to both inter-model and intra-model associations were calculated. Finally, the rates of the intra-model associations concerning either group cohesion or social identity were considered.

Pearson's Chi-squared tests of independence were then performed to examine the frequency of appearance differences between: (a) group cohesion exclusive MUs vs. inter-model overlapping MUs; (b) social identity exclusive MUs vs. inter-model overlapping MUs; (c) the four group cohesion dimensions (i.e., attractions to the group – task/social, and group integration – task/social) exclusive MUs vs. inter-model overlapping MUs; (d) the three social identity dimensions (i.e., cognitive centrality, ingroup affect, and ingroup ties) exclusive MUs vs. inter-model overlapping MUs; (e) the associations between the three social identity dimensions (i.e., cognitive centrality, ingroup affect, and ingroup ties) and the four dimensions of group cohesion (i.e., attractions to the group – task/social, and group integration – task/social), considering only the inter-model overlapping MUs. Effect sizes were calculated using Cramer's V.

Data Quality

To uphold the credibility of the data, a series of procedures were undertaken, drawing from the extant qualitative literature in sports, aligning with a critical realist perspective (Tamminen & Poucher, 2020; Uphill & Jones, 2007). First, an approach that viewed the participant as an equal, asked descriptive open-ended questions, and used active listening to facilitate rapport and trust was employed (Uphill & Jones, 2007). Second, to achieve credibility through triangulation between two researchers, the interview transcripts were independently coded and any divergences (7.99% of MUs) were discussed to get agreement (Giacobbi et al., 2004). Third, unlike the first coder, who

collected the data and was closely involved with the participants, the second coder was not directly involved with the participants, allowing for alternative interpretations. (Holt & Sparkes, 2001; Tamminen & Crocker, 2013). In addition, further cross-validation was provided by peer debriefing during research group meetings with the external last author (Martinent & Ferrand, 2009). Finally, we sought to obtain the participants' confirmation that their experiences were accurately reflected in the thematic hierarchies presented to them (Martinent & Ferrand, 2009).

Results

Qualitative analysis

Verbatim provided 706 MUs. Table 1 provides an overview of the themes that group overlapping MUs between the group cohesion and social identity models (Table 1).

Cognitive Centrality

Attractions to the Group - Social

This overlap concerns the importance of the social identity for the individual and the desire to belong to the group for social reasons. Two themes emerged. The first one pertains to the club membership, and can be illustrated as follow: "I think a lot about our team. I'm really disappointed I missed the barbecue last Friday; I had to go back to my apartment to move my furniture" (P12). Here, when evoking the importance of his group, P12 suggested a strong attraction for the group in its social dimension (invitation to dinner).

The second theme corresponds to the importance of rugby for participants. Here, P8 states that the rugby is central for him and his life, and relate it to the bonds he creates:

Rugby is always present in my life. When I come home, there's always someone sending me a message. Especially since I have no family support here—it's just my girlfriend. My only friends are from rugby. It was different when I was in school; I would meet people outside of rugby, and it was good for me. But now, I don't know anyone...(P8).

Attractions to the Group - Task

This second overlap concerns the importance of the group and the desire to be part of the group regarding the task. Only one theme emerged. In this example, P1 explained the subjective importance of the group to his self-definition when he evoked the desire of pursuing collective objective together on long term:

I often think about it, and I'm proud to tell my friends and parents that I play for [club]. It's part of my identity. Moreover, we all want to be champions and move up, and I believe we have the team and the facilities for it. We feel good in this city, in this club, and we want to build a team for several years, not just for this year. We are looking ahead to the future. (P1)

Table 1. Themes grouping overlapping MUs regarding associations between social identity and group cohesion dimensions.

Social identity	Group cohesion	Themes
Cognitive centrality	ATG-S	Club membership
		Importance of rugby
	ATG-T	Projecting into the future
	IG-S	Importance of spending time together
	IG-T	-
In-group ties	ATG-S	Having friends in the team
		Communication in the team
		Proximity with teammates
		Spending time together
	ATG-T	Good conditions for pursuing the team
	IG-S	The bond creation
	IG-T	The sub-groups are integrated
	IG-T	The bonds creation
		Solidarity
In-group affect	ATG-S	Joy to be part of the team
	ATG-T	Investment in the team objectives
	IG-S	Joy of spending time together
	IG-T	Fun training exercise

Note. GI-T: Group Integration – Task; GI-S: Group Integration – Social; ATG-T: Attractions to the Group – Task; ATG-S: Attractions to the Group – Social.

Group Integration - Social

This one concerns the perception of the group as a whole and the importance of being a member of this group. The theme is related to the importance of spending time together. It can be illustrated as follow:

No, I didn't really feel any difference when I arrived in [city]. Honestly, we were all united, living together in shared accommodation, so we were constantly together, 24/7. We ate together, partied together, and did everything together. Those were actually the best years of my life; we were like a family. (P1).

In this example, the player refers to the United group through social activities and the importance for him highlighted with the word family.

Group Integration - Task

No MUs associated the importance of the group for the self-definition and the perception of the group as a whole regarding the performance.

Ingroup Ties

Attractions to the Group - Social

Four themes emerged representing the overlap between ingroup ties and attractions to the group-social.

The first theme concerns the friendship between teammates. For illustration, P18 refers to the friendship bond and the fact that the relations are good:

I commute every day with the guys from [city]: [teammate 1], who I am very close to, and [teammate 2], who is a bit older but we get along well. And then, I think there are plenty of good guys on the team, especially in the back (laughs). (P18).

The second theme concerns the communication. For instance, P22 recalls a moment where mobile were forbidden, and it forced them to communicate between them, having the consequence of knowing the teammates better:

And then, there are the moments we experienced together: very funny, we had a great laugh. The phone thing-I found it weird at first, but in the end, it was a really good idea. I thought it had a super beneficial effect on the internship. You really get to know the guys better: it was just us, and during our free time, the only thing to do was to interact. Without realizing it, when we finished the sketches, everyone stayed afterwards. If anyone had their phone, they probably would have said, 'Okay, I'm going to relax on my phone in my bed...' But instead, everyone came together, and that was the best moment of the evening (laughs). (P22).

The third theme concerns the proximity between teammates, illustrated as follow:

"I met [teammate] because I took over his house, and right away, I was invited here and there to have meals with the players. As a result, for the first training session, I already knew half of the team." (P12)

Finally, the last theme concerns the time spent together. For instance, P28 emphasized the importance of spending time together, explaining:

Yes, a lot. I think it's important, even in a regular job, to share things with your colleagues. I do a bit of fishing, and we often go with 5 or 6 guys from the team. It's another opportunity to get together. It's really great-even though we often talk about rugby, we also exchange a lot of ideas, and I find that important. As I mentioned earlier, spending time together on and off the field is valuable. (P28)

Attractions to the Group - Task

Only one theme named "Good conditions for pursuing the team's objectives" appeared from the data. An illustration representing the MUs referring to this association can be what is reported by P4 concerning giving all for teammates in the task objective:

It's a group that is forming; it's more than just work, it's something we feel. It's being happy to come to training in the morning, wanting to give our all for others, and knowing that others will do the same for us. It's about trust. (P4)

Group Integration - Social

This association gathers two themes referring to bond creation and sub-groups merge. The first theme can be illustrated as follows: "What was really great was Pierre's idea: each veteran buys a beer for a newcomer. They thought, 'We feel welcomed this way.' Now there are no more newcomers or veterans; we mix and it's nice."(P33). In this verbatim, P33 explained the strategy to bond between teammates, and estimates that there is no difference anymore between teammates.

The integration of sub-groups was well illustrated by players who stated they do not feel a difference between subgrupos (young/old, etc.). For instance, P8 explained this in the following manner:

Honestly, we don't see any difference. There's always a bit more teasing; that's just how it is with the younger ones. But the integration is the same as for the professional players. There's no different status, I don't believe so. (P8).

The P2's quote also well illustrates the subgroups merge. "First of all, there are few of them; often South Africans live in a community, but I don't really feel that here..." (P2).

Group Integration - Task

Finally, this association refers to the perception of strong bounds, and the perception for the group to be united regarding the task. Two themes emerged: bonds creation and solidarity. The first theme can be illustrated by P20 who exposed the fact that the group has something different regarding past years, and that he feels it during training sessions:

No, this year it seems to be going well. I think we can create something nice. Of course, we'll see the results, but compared to last year, it's starting off better, even in terms of the quality of the training sessions and the commitment of the guys... (P20).

The second theme can be illustrated with P22 stating that teammates can rely on another regarding the final phases: "Before the playoffs, we were a bit doubtful, but we had reliable values that allowed us to say, 'We are capable of doing it.' Each one could rely on the others." (P22)

Ingroup Affect

Attractions to the Group - Social

The first association for ingroups affect is with attractions to the group-social. The theme emerging from the data is named "joy to be part of the team". Example of MUs fitting this superior theme is P12 recalling last team's social event: "I'm upset that I missed last Friday's barbecue; I had to go back to [city] to return my apartment." Here P12 refers to intense emotions arising from the inability to participate to the last team social event.

Attractions to the Group - Task

The only theme emerging from the data is "investment in the team objectives". To illustrate this association, P35 showed attractions to the group - task (i.e., team objectives) linked with a positive atmosphere and excitement:

I believe we have a really strong team, and we can achieve something this year. It's been a while since I've experienced such a positive atmosphere. The training is tough, but we have an excellent group. If we can maintain this dynamic, it will be great. I can't wait for the first matches...(P35)

Group Integration - Social

The only theme emerging from the data refers to the joy of spending time together, and may be illustrated by this player's quote: "It didn't change much; we had some interactions on social media during the lockdown. We didn't lose touch, and we were thrilled to reunite during training sessions." (P31)

Group Integration - Task

Finally, the last association contains one theme named "fun training exercise", and can be illustrated with P1 evoking the performance of the team as follows: The physical demands were starting to take a toll. Nevertheless, everyone thoroughly enjoyed the laughter during these small challenges. I believe we were more performant than if we had trained under normal circumstances." (P1)

Relation to Outgroups

Only five MUs referred to the outgroup to support the discourse. All of them were overlapping UM and were related to IT. This can be illustrated as follows, after the interviewer asked about the integration of the youngest players: "I've seen clubs where young individuals just content themselves with being present, but here, you get the feeling that they have convictions, that they want to push boundaries, progress, and learn from the guys who are here." (P2).

Quantitative Analysis

Base on the qualitative analysis, the distribution of the MUs across the three dimensions of social identity and the four dimensions of group cohesion is presented in Table 2. Out of the 706 MUs, 312 exclusive MUs (44.19%) and 394 overlapping MUs (55.81%; hence, 197 associations) were identified. Concerning the overlapping MUs, 81.22% corresponded to inter-model associations and 18.78% corresponded to intra-model associations (see Table 2). Moreover, 78.38% of the intra-model associations concerned group cohesion, and 21.62%

Table 2. Distribution of exclusive and overlapping MUs.

	Exclusive	GI-T	GI-S	ATG-T	ATG-S	IT	CC	IA
Exclusive								
GI-T	72							
GI-S	86	13						
ATG-T	23	9	1					
ATG-S	27	0	4	2				
IT	75	29	57	6	43			
CC	16	0	3	3	4	1		
IA	13	2	2	7	4	4	3	

Note. GI-T: Group Integration-Task; GI-S: Group Integration-Social; ATG-T: Attractions to the Group-Task; ATG-S: Attractions to the Group-Social; IT: In-group Ties; CC: Cognitive Centrality; IA: In-group Affect.

social identity (Table 2).

Results of the Pearson's Chi-squared tests of independence showed that group cohesion MUs appeared more frequently alone than associated with social identity MUs during interviews, whereas social identity MUs appeared more frequently related to group cohesion MUs than alone ($\chi^2 (1, N = 632) = 18.0, p < 0.001, Cramer's V = .17$). Furthermore, attractions to the group – social MUs seemed to be more frequently related to social identity MUs than alone compared to the other three dimensions of group cohesion MUs, whereas attractions to the group – task, group integration – social, and group integration – task MUs appeared more frequently alone than associated with social identity MUs ($\chi^2 (3, N = 368) = 23.0, p < 0.001, Cramer's V = .25$). Moreover, ingroup ties MUs appeared more frequently associated with group cohesion MUs than alone compared to cognitive centrality and ingroup affect MUs, whereas cognitive centrality and ingroup affect MUs appeared more frequently alone than related to group cohesion MUs ($\chi^2 (2, N = 264) = 7.11, p < 0.05, Cramer's V = .16$).

Then, considering only the overlapping MUs, ingroup ties MUs were more likely to be associated with group integration MUs compared to cognitive centrality and ingroup affect MUs, whereas cognitive centrality and ingroup affect MUs appeared more related to attractions to the group MUs than ingroup ties MUs ($\chi^2 (2, N = 160) = 11.11, p < 0.01, Cramer's V = .26$). Specifically, ingroup ties MUs were more related to group integration – social and task MUs than cognitive centrality and ingroup affect MUs, whereas cognitive centrality and ingroup affect MUs were more associated with attractions to the group – task MUs than ingroup ties MUs ($\chi^2 (6, N = 160) = 34.3, p < 0.001, Cramer's V = .33$).

Discussion

The aim of this study was to enhance our understanding of the associations between group cohesion and social identity within sports teams. Building on the work of Worley et al. (2020), which established preliminary correlations between the four dimensions of group cohesion and the three dimensions of social identity, this study seeks to delve deeper into these relationships. Previous research has largely overlooked the detailed interplay between these constructs, limiting nuanced insights into their interconnections within a sporting context. This study distinguishes itself through the innovative application of a mixed-methods approach, to elucidate the intricate relationships between the four dimensions of group cohesion (Carron et al., 1985) and the three dimensions of social identity (Bruner & Benson, 2018; Cameron, 2004). We posited that ingroup ties would demonstrate stronger associations with the four dimensions of cohesion compared to other dimensions of social identity, and that attraction to group-task would show more frequent associations with the three dimensions of social identity relative to other dimensions of group cohesion.

First, the results indicated that 44.19% of the meaning units (MUs) focused on either group cohesion or social identity. Pearson's Chi-squared tests of independence revealed that social identity was more frequently associated with group cohesion than when considered alone, whereas group cohesion was more frequently considered alone than in association with social identity. These findings support the notion that these two models are distinct constructs that are essential for understanding group functioning. Specifically, Carron et al.'s (1998) model emphasizes both behavioral and cognitive components, whereas identity processes are inherently cognitive with consequential behavioral outcomes. Additionally, Carron et al.'s model focuses on ingroup components, while social identity theory addresses the social cognition associated with group belonging, sometimes in relation to an outgroup, which can either facilitate or impede group cohesion (Brewer, 1999; Haslam et al., 2020; Turner et al., 1987).

Also, despite their distinctiveness, the current findings reveal a significant

interrelation between these constructs. This supports the works by several social identity scholars who have worked on developing social identity to enhance group dynamics. For instance, McEwan and Beauchamp (2014) demonstrated that a team's social identity is a key cognitive state for performance and effectiveness at the group level. Similarly, multiple studies have shown that sharing membership in a particular social category encourages individuals to train together (e.g., Dunlop & Beauchamp, 2011). Fransen et al. (2020) utilized social identity principles to develop shared leadership that positively influences group dynamics. Aligning with previous literature (Bruner et al., 2014; Chamberlain et al., 2021; Evans et al., 2023). The current findings notably corroborates Worley et al's (2020) preliminary results demonstrating that more than three-quarters of the overlapping meaning units (81.22%) highlight this relationship,

Furthermore, the results revealed that intra-model associations within the group cohesion model were four times more prevalent than those within the social identity model (78.38% versus 21.62%, respectively). These findings suggest that the four dimensions of group cohesion are more interdependent than those of social identity. This underscores the complexity of the social identity model, demonstrating that athletes may feel a sense of belonging to a group (high ingroup ties) without necessarily caring for it (low cognitive centrality and ingroup affect), for instance. Conversely, athletes may be highly committed to the group (high cognitive centrality) but experience a lack of connections (low ingroup ties and affect). Both scenarios can lead to suboptimal group functioning. This independence of social identity dimensions has also been observed in relation to other concepts, such as antisocial behaviors (Bruner et al., 2018). In Bruner et al.'s study, ingroup ties and cognitive centrality predicted prosocial behaviors toward teammates, while ingroup affect did not. Thus, this study highlights the necessity of considering both group cohesion and social identity to improve sports teams' dynamics, as they represent two strongly related theoretical constructs. Moreover, it underscores the importance of considering all dimensions of social identity to develop robust team identification. In addition, ingroup ties were more frequently associated with group cohesion than cognitive centrality and ingroup affect. Specifically, ingroup ties were more related to group integration – social than cognitive centrality and ingroup affect, confirming our first hypothesis. Qualitative results indicated that this association pertained to the creation of bonds and the integration of sub-groups, demonstrating that teammates formed connections regardless of subgroup affiliations. Furthermore, ingroup ties were also more related to group integration – task than cognitive centrality and ingroup affect. Athletes described this association as the perception of strong bonds during training and a sense of solidarity, indicating that the group is united in their tasks and that teammates can rely on one another. These findings corroborate Cameron's (2004) intuition, emphasizing the tight bond between social identity and group cohesion. This relationship underscores the importance of belongingness in forming a powerful group and highlights the need to build a sense of belonging to increase group cohesiveness, which is essential for successful collective action. This understanding directs focus towards creating strong, meaningful connections among group members and fostering a sense of unity that inspires collective action. Additionally, cognitive centrality and ingroup affect were more associated with attractions to the group – task than ingroup ties. Qualitative data showed that the link between cognitive centrality and attractions to the group – task reflects the importance for athletes to be part of the group in relation to the task, especially in collectively pursuing long-term team objectives. Moreover, the link between ingroup affect and attractions to the group – task appeared as the investment in team objectives, indicating that being part of the group is important as these objectives generate a positive atmosphere and excitement. These findings align with existing literature, such as Campo, Champely, et al. (2019), which uses group-based goals to foster a sense of group belonging.

Third, results showed that attraction to the group – task MUs were more associated with social identity compared to the three other dimensions of group cohesion. This confirms our second hypothesis. However, while the qualitative analyses revealed four themes highlighting associations between attractions to the group – social and ingroup ties, the quantitative analyses were not significant. This discrepancy may be attributed to the post-cohesion stage context, where the development of ingroup ties appears to have been the primary consequence. Consequently, several meaningful units emerged in the qualitative analysis, reflecting these strong ingroup ties, but they did not reach statistical significance in the quantitative analysis. This highlights the importance of considering the context in which data collection occurred. Specifically, the data collection for this study took place after a cohesion training camp, at a time when the team was focused inward. This context likely amplified the prominence of ingroup ties. While some themes revealed by the qualitative analysis did not reach statistical significance in the quantitative analysis (i.e., cognitive centrality and ingroup affect with attractions to the group – social, and group integration – social/task; ingroup ties with attractions to the group – task), their emergence in qualitative findings underscores their potential relevance. Our current findings demonstrate the importance of a

mixed-methods approach, as highlighted by previous research (e.g., Biesta, 2021; Onwuegbuzie & Leech, 2005). Qualitative methods provide detailed, contextual insights that can uncover subtle but significant associations, offering a depth of understanding that quantitative methods might overlook. This approach ensures that even when certain themes do not achieve quantitative significance, they are not disregarded but rather recognized for their potential to enhance the understanding of group dynamics. These non-significant results in the quantitative analysis, highlighted by qualitative insights, suggest the need for further investigation into these suggested relationships. Overall, this study aimed to bridge the gap in knowledge regarding the associations between specific dimensions of social identity and group cohesion in team sports, demonstrating that a nuanced, mixed-methods approach is essential for capturing the complexity of these relationships within sports teams.

Finally, another result that deserves discussion is the limited connection with the outgroup, as evidenced by only five overlapping MUs. This could reflect Brewer's concept of ingroup love (Brewer, 1999; Hamley et al., 2020), where participants' discourses were almost exclusively team-oriented. This aligns with the previous context-specific observations, suggesting that data collection conducted in an intergroup context, such as during a competition, might reveal more references and comparisons with the outgroup, as supported by findings in intergroup research (e.g., Brewer, 1999; Hamley et al., 2020; Mackie et al., 2000; Tajfel & Turner, 1979). Such a setting would enable a deeper understanding of the nuanced links between social identity and cohesion. This insight challenges previous studies (Bruner et al., 2014; Chamberlain et al., 2021; Evans et al., 2023; Worley et al., 2020) by highlighting the potential variability in these connections depending on the context. Thus, there is a need for replicating these results while considering various situational and longitudinal contexts, as situational factors can significantly influence social identity processes (e.g., Hogg & Abrams, 2003). Future research should investigate different context and events relevant to the participating teams to better address the links between cohesion and social identity subdimensions. By doing so, we can develop a more comprehensive understanding of these dynamics and their implications for team performance and group functioning.

Limitations and perspectives

Several limitations of this study warrant discussion, but they also highlight valuable opportunities for future research. First, this study was conducted with a rugby team at the beginning of the season, a period typically characterized by transitions with athletes from the previous season and new athletes joining. Therefore, the study may not capture the dynamics that emerge later in the season, when different dimensions of social identity could become more prominent. This limitation suggests a promising avenue for future research to explore the links between cohesion and social identity across different stages of the season and in various sports contexts. These studies could employ structural equation modeling to generate an interaction model between the variables under investigation.

Moreover, the strength of this study lies in its robust methodology that cross-references the dimensions of two theoretical models. To our knowledge, this is the first time such a comprehensive approach has been employed to explore the interrelations between the models of social identity and group cohesion. While qualitative methods offer rich insights, it is also important to acknowledge that the interviewer's probing and follow-up techniques can influence respondents' discussion points. This is a common consideration in qualitative inquiries. To enhance the robustness of future research, it would be beneficial to systematically account for factors such as the degree of group belonging and the players' status within the team. These considerations can help ensure that the results accurately reflect the participants' perspectives and experiences, thereby providing additional confirmation and robustness to the obtained results.

Finally, considering the different identities an athlete manages in various sporting contexts would be beneficial. Social identity may relate to different levels of self-abstraction (Haslam et al., 2020; Turner et al., 1987). Recent studies in sports have shown that athletes may self-categorize as team members, club members, or as athletes of their sport (e.g., Campo et al., 2018; Campo, Mackie, et al., 2019). While we coded narratives as referring to social identity in general, future research should examine the effects of identification with supraordinate categories (e.g., identification with the club) on cohesion in subordinate categories (e.g., the team).

Conclusion

From an applied perspective, coaches in team-based sports should recognize and leverage both social identity and group cohesion models as powerful tools for fostering strong group dynamics. For example, drawing on the principles of identity leadership outlined by Fransen et al. (2015, 2017), coaches can enhance team cohesion by distributing leadership roles among team members, fostering a sense of ownership and responsibility across the group. This approach can be particularly effective in promoting a shared sense of

identity and unity. Coaches can also create opportunities for athletes to engage in collaborative challenges that require teamwork to achieve common goals. This not only strengthens in-group ties but also reinforces the shared team value of cooperation and the sense of "us-ness" (Fransen et al., 2015). Such opportunities, based on principles that strengthen social identity, should help provide strong foundations for unity and optimize group dynamics in sports. This is particularly valuable as it enhances the individual self, even amidst cataclysmic situations such as series of defeats or negative media portrayals, which can undermine the group's appeal and lead to its fragmentation. This highlights the necessity of initially fostering a sense of individual ownership within the group to promote cohesion, thereby facilitating what are known as social mobility strategies. Players must perceive the group as valuable and integrate it into their self-concept, especially during challenging circumstances.

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