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Dispositional Orientations in Competitive Ultimate Frisbee Athletes

Orientaciones disposicionales en atletas competitivos de Ultimate Frisbee

Orientações Disposicionais em Atletas de Competição de Ultimate Frisbee

Amoroso, J.^{1,2}, Antunes, R.^{1,2,3}, Valente-dos-Santos, J.^{4,5}, Furtado, G.^{5,6}, Rebelo-Gonçalves, R.^{1,2,5}

¹School of Higher Education and Social Sciences, Polytechnic Institute of Leiria, Leiria, Portugal; ²Life Quality Research Centre (CIEQV), Polytechnic Institute of Leiria, Leiria, Portugal; ³Center for Innovative Care and Health Technology (ciTechCare), Polytechnic of Leiria, Leiria, Portugal; ⁴Centro de Investigação em Desporto, Educação Física e Exercício e Saúde (CIDEFES), Lusófona University: Lisboa, Portugal; ⁵Research Unit for Sport and Physical Activity (CIDAf—uid/dtp04213/2020), University of Coimbra, Coimbra, Portugal; ⁶Research Unit for Inland Development (UDI), Polytechnic Institute of Guarda, Guarda, Portugal

ABSTRACT

The purpose of this study to analyze dispositional orientations among Ultimate Frisbee (UF) athletes according to different divisions. Data was collected during the European Beach Ultimate Championship (EBUC) 2019. The sample comprised a total of 484 athletes (34.7±9.7 years of age), from 19 countries. Participants were asked to fill in a sociodemographic questionnaire, and the Perception of Success Questionnaire (POSQ). Participants were grouped in eight competitive divisions: Mixed ($n=123$), Grand master men's ($n=61$), Master mixed ($n=59$), Master men's ($n=57$), Great grand master men's ($n=52$), Master women's ($n=51$), Men's ($n=50$) and Women's ($n=31$). The POSQ demonstrated a reasonable internal consistency, with the inter-item reliability coefficients ranging from 0.81 to 0.90. An analysis of Variance (ANOVA) was used to compare goal orientation by UF divisions (i.e., women's, men's, mixed, master women's, master men's, master mixed, grand master men's, great grand master men's). On average, UF athletes reported higher levels of perceived task orientations (4.17 ± 0.80 vs. 3.13 ± 0.82). Multivariate analysis of variance demonstrated that there was a significant main effect of UF division on the POSQ scores. The Women's, Men's and Mixed presented the higher task values (4.27 ± 0.72 , 4.32 ± 0.78 , and 4.35 ± 0.67 , respectively), while the Master women's division presented the highest ego score (3.61 ± 0.71). Our findings indicated that success among UF athletes is defined in self-referenced terms, such as through mastering tasks or improving one's own personal skills. Further studies are necessary to understand the dispositional orientation between athletes of different divisions, since there are a variety of environmental and social variables that can be promoted and influence the observed differences.

Keywords: achievement goal theory, motivation, team sport.

RESUMEN

El objetivo principal de este estudio fue examinar la orientación disposicional entre los atletas de Ultimate Frisbee (UF), según las diferentes divisiones. Los datos fueron recolectados durante el European Beach Ultimate Championship (EBUC) 2019. La muestra estuvo formada por 484 deportistas (34,7±9,7 años) de 19 países. Se pidió a los participantes que completaran un cuestionario sociodemográfico de caracterización individual y el Perception of Success Questionnaire (POSQ). Los participantes se agruparon en ocho divisiones competitivas: Mixto ($n=123$),

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Gran máster para hombres ($n=61$), Máster mixto ($n=59$), Máster para hombres ($n=57$), Gran máster para hombres ($n=52$), Máster femenino ($n=51$), Masculino ($n=50$) y Femenino ($n=31$). El POSQ demostró una coherencia interna razonable, con coeficientes de fiabilidad entre elementos que oscilan entre 0.81 y 0.90. Se utilizó un análisis de varianza (ANOVA) para comparar la orientación de la meta por divisiones de UF, es decir, Femenino, Masculino, Mixto, Máster femenino, Máster masculino, Máster mixto, Grand máster masculino, Great grand máster masculino. En promedio, los atletas del UF revelaron niveles más altos de orientación a la tarea percibida (4.17 ± 0.80 frente a 3.13 ± 0.82). El análisis de varianza multivariado demostró que había un efecto principal significativo de la división UF en las puntuaciones POSQ. Las categorías Femenina, Masculina y Mixta presentaron los valores más altos para la tarea (4.27 ± 0.72 , 4.32 ± 0.78 y 4.35 ± 0.67 , respectivamente), mientras que la división Máster femenino presentó la puntuación más alta para el ego (3.61 ± 0.71). Nuestros resultados indicaron que el éxito entre los atletas del UF se define en términos autorreferenciales, mediante el dominio de tareas o la mejora de sus propias habilidades personales. Se necesitan más estudios para comprender la orientación disposicional entre deportistas de diferentes categorías, ya que existe una diversidad de variables ambientales y sociales que se pueden promover e influir en las diferencias observadas.

Palabras clave: teoría del logro de metas, motivación, deportes de equipo.

RESUMO

O principal objetivo deste estudo foi analisar as orientações disposicionais entre atletas de Ultimate Frisbee (UF), de acordo com as diferentes divisões. Os dados foram recolhidos durante o European Beach Ultimate Championship (EBUC) 2019. A amostra foi composta por 484 atletas (34.7 ± 9.7 anos de idade), de 19 países. Os participantes foram convidados a preencher um questionário sociodemográfico de caracterização individual, e o Perception of Success Questionnaire (POSQ). Os participantes foram agrupados em oito divisões competitivas: Misto ($n=123$), Grand master masculino ($n=61$), Master misto ($n=59$), Master masculino ($n=57$), Great grand master masculino ($n=52$), Master feminino ($n=51$), Masculino ($n=50$) e Feminino ($n=31$). O POSQ demonstrou uma consistência interna razoável, com coeficientes de confiabilidade entre itens variando de 0,81 a 0,90. Uma análise de variância (ANOVA) foi usada para comparar a orientação do objetivo por divisões de UF, ou seja, Feminino, Masculino, Misto, Master feminino, Master masculino, Master misto, Grand master masculino, Great grand master masculino. Em média, os atletas de UF revelaram níveis mais elevados de orientações de tarefas percebidas (4.17 ± 0.80 vs. 3.13 ± 0.82). A análise de variância multivariada demonstrou que houve um efeito principal significativo da divisão de UF nos scores do POSQ. As categorias Feminina, Masculina e Mista apresentaram os maiores valores para a tarefa (4.27 ± 0.72 , 4.32 ± 0.78 e 4.35 ± 0.67 , respectivamente), enquanto a divisão Master feminina apresentou o maior score para o ego (3.61 ± 0.71). Os nossos resultados indicaram que o sucesso entre os atletas de UF é definido em termos auto-referenciados, através do domínio de tarefas ou da melhoria das próprias habilidades pessoais. Mais estudos são necessários para entender a orientação disposicional entre atletas de diferentes categorias, uma vez que há uma diversidade de variáveis ambientais e sociais que podem ser promovidas e influenciar nas diferenças observadas.

Palavras-chave: teoria da realização dos objetivos, motivação, desportos coletivos.

INTRODUCTION

The understanding and enhancement of motivation in exercise and sport performance is quite challenging and it has been regularly studied based on the conceptual framework of the self-determination theory (SDT; Deci & Ryan, 1985). This theory focusses on the “why” of a given behavior, considering the determinants and consequences of more or less autonomous and controlled reasons for participation, assuming that there are three basic psychological needs required for optimal functioning

and well-being: experienced competence; autonomy and relatedness (Duda, 2013). The SDT assumes that autonomy support is the essential element for satisfying psychological needs (Almagro et al., 2015). Recently, Appleton et al. (2016) proposed a hierarchical conceptualization of the coach-created motivational climate that integrates the major social environmental dimensions emphasized within SDT and Achievement Goal Theory (AGT; Nicholls, 1989). On the other hand, the AGT is a social-cognitive theory that assumes that individual is an

intentional, rational goal directed organism and that achievement goals govern achievement beliefs and guide subsequent decision making and behavior in achievement context (Roberts & Treasure 2012). The AGT considers the effects of two major domains: situational and dispositional. Situational determinants of behavior are related with the inherent factors in the context or environment, like the motivational climate created by coaches, for example, while dispositional variables are related with the individual's orientations, that will more likely determine the probability of adopting a certain goal or action.

Nicholls (1979) theory was a useful framework to investigate the motivational effects stemming from the interactions between individuals and environment and was the first achievement motivation theory that provide effective answers about how to sustain optimum motivation for all level of ability (Ntoumanis, 2001; Roberts, 2012). A person state of motivational involvement may be seen to range a continuum from task involvement to ego involvement. Task and ego involvement are fluid and dynamic during a competitive event, and thus, difficult to capture the essence of the correct orientation (Gernigon & Arripe-longueville, 2004). Personal values are relevant in the field of sport, and they point to the importance of instilling human values of self-transcendence (transcending the personal in favor of the collective), transmitting competence and moral values in sport, and promoting task in the athlete, in order to foster prosocial attitudes and reduce unsportsmanlike attitudes during basketball practice (Adell et al., 2019). Elite samples, who persistently seek a level of performance, revealed the joint existence of both orientations is necessary (Bossio, 2009).

Perceptions of the motivational climate are influenced by the nature of relationships with important social agents in the sport setting (Smith et al., 2006). The most important feature of AGT is that individual difference variables (self-schemas, personal theory of achievement, valence, dispositions, goal orientation) and situational variables (motivational climate, emergent schemas) are part of the same theory and are conceptually compatible (Roberts, 2012).

In an attempt to measure whether people are prone to be Ego or Task involved in achievement tasks in sport, i.e., to measure dispositional goal orientations in sport

(Biddle et al., 2003), the Perception of Success Questionnaire (POSQ) was proposed by Treasure & Roberts, (1994). Individual's transitory state of task or ego involvement is also dependent on dispositional differences, namely the person's degree of task and ego orientation. Situational and dispositional goal perspectives emerged as the best predictor of the variables targeted (Balaguer et al., 2002). Thus, perceived motivational climate and dispositional goal orientation appear to be two different dimensions of motivation in sport activities (Selfriz et al., 1992). The social context of sport has the potential to provide interaction experiences, which are particularly relevant in team sports (Kavussanu, 2007). Athletes should pursue high collective efficacy standards within their team. A person is carrying out multiple roles in an athlete's motivational atmosphere, evaluative roles, training roles, competitive roles, associate social and emotional needs (Keegan et al., 2011). Also, the sports' own nature and characteristics might influence the dispositional orientations in athletes (Amoroso et al., 2021).

Ultimate Frisbee (UF) is a fast paced, non-contact, mixed team sport played with a flying disc or frisbee (Griggs, 2011; Lam et al., 2021). The official field measures are 64 meters by 37.57 meters with 22.86 meters end zones, and an official match has a duration of 48 minutes, with two 24-minute halves (Caporali, 1988). Gathering attributes of a number of invasion games, such as American football and netball, into a simple, yet demanding game (Spencer-Cavaliere et al., 2017), UF is a self-refereed, tolerance requires players to give up a possible illicit advantage (Crocket, 2015). UF has other distinguishing features when compared to other team sports, such as: self-arbitration, auto-regulation, and independent communication, even at world championship level, where players are expected to abide by a code of fair play, Spirit of the Game (Crocket, 2015). The Spirit of the Game (SOTG) translates these characteristics, and to some extent, appear to modulate behaviors, actions, and some psychological aspects of the game (Spencer-Cavaliere et al., 2017). Some aspects of SOTG described since the beginning of the UF (Clark et al., 1981), such as: i) encouraging highly competitive play, but never at the expense of mutual respect between players; ii) play for pleasure and joy; iii) not accepting actions such as provoking opponents, encouraging intentional aggressions or even "win at all costs" behaviors, seem

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to encourage some researchers to understand the psychological dimension of UF (Griggs, 2009, 2011).

However, research on this theme in the context of sport has sought to understand UF athletes related with dispositional orientations. With this in mind, the aim of this study was to analyze the dispositional orientations among UF athletes according to the different playing divisions. Although the relevance of the study of the determinants (motivation) for participation is strong, and particularly the study of dispositional orientations, the assessment of these variables in the specific context of the UF has not yet been carried out. This will be a first rehearsal for that purpose.

MATERIALS AND METHODS

Participants

The European Beach Ultimate Championship (EBUC) 2019 hosted 90 teams from 23 Nations to participate in a total of 8 divisions. The championship was held in Portimão, Portugal, from May 6th to 11th. From the total of 1350 athletes participating in the EBUC 2019, 484 agreed to take part in the present study. Each division is differentiated by age: Women's <30 years old; Men's <33 years old; Mixed < 33 years old; Master Women's >30 years old; Master Men's >33 years old; Master Mixed >33 years old (M) >30 years old (F); Grandmaster Men's >40 years old; Great Grandmaster Men's >48 years old.

The Mixed division was the largest with 18 participating teams. This was followed by the Men's and Master Men's divisions, with 14 teams each and followed by the Master Mixed division with 12 teams.

In UF gender ratio is a rule that is defined the number of (F/M) elements entering the field to play the point. The attacking team chooses the number of elements (female / male) to be on the field for that point. With the gender ratio (3:2 or 2:3) at the start of the game, after the first disc flip (disc possession draw), an additional disc flip happens with the winner selecting the gender ratio for the first point. For the second and third points the ratio must be the reverse of the first point. For the fourth and fifth points the ratio must be same as the first point. This pattern of alternating the ratio every two points repeats until the end of the game (WFDF et al., 2009). Grand Master Men's had 10 registered teams, and both Women's and Great Grand

Master Men's had eight. The smallest division was Master Women's, with six registered teams. Participants were grouped according to eight competitive divisions (Table 1): mixed ($n=123$), grand master men's ($n=61$), master mixed ($n=59$), master men's ($n=57$), great grand master men's ($n=52$), master women's ($n=51$), men's ($n=50$) and women's ($n=31$).

The participants, representing 19 countries, had an average age of 34.7 ± 9.7 years. Sport experience was expressed as years of participation in competitive UF at the club level, including registration with the respective national associations. Individual training information was obtained by interview on the day of observation and the years of formal national team representations confirmed in consultation with institutional records of the WFDF (Table 2). All athletes participated in regular training sessions ($1-4$ sessions $\cdot$ week⁻¹; $30-100$ min $\cdot$ session⁻¹) with their clubs. The average duration of the national ultimate competitions varies according to the competitive schedules of each national association.

Procedures

A sociodemographic questionnaire, and the Perception of Success Questionnaire (POSQ) were distributed by the "Spirit of the Game" captain in the first meeting, a day before the beginning of the tournament (5th May at 10PM). In this meeting between the research leader and the spirit captains, the need to administer the questionnaires apart from the competition was mentioned. Participants were asked to complete questionnaires alone and in a quiet environment. At meeting, instructions on how to fill in the questionnaire were provided, emphasizing that responses would be kept confidential, and answer should be as honest and spontaneous as possible. It was stressed that there were no right or wrong answers. The questionnaires required approximately five minutes to be completed. Due to the specific rules of the UF, we chose to use the questionnaires in English as a standardized language for all participants. To standardize the procedures, we also used the English qualifications, Common European Framework of reference for languages as an advantage. The delivery of the questionnaire was carried out in the end of the tournament in last captain meeting (11th May at 6 PM). The study was conducted in accordance with recognized ethical standards for

research in sports sciences (Harriss et al., 2019) and followed the Declaration of Helsinki produced by the World Medical Association for research with humans.

Participants were fully informed about the nature of the study and the procedures involving data recording.

Participants were voluntary, could withdraw from the study at any time and provided informed consent before the questionnaire's completion. Anonymity was guaranteed.

Table 1. Number of participants per sex and UF division ($n=484$).

	Women 's	Men's	Mixed	Master women 's	Master men's	Master mixed	Grand master men's	Great grand master men's	Total
Number of participants	31	50	123	51	57	59	61	52	484
Female	31	0	64	51	0	28	0	0	174
Male	0	50	59	0	57	31	61	52	310
Countries									
Austria	0	0	11	0	0	0	0	9	20
Belgium	0	0	18	0	0	0	11	0	29
Currier Island	5	0	15	0	8	12	0	10	50
Czech Republic	0	0	13	0	0	0	0	0	13
Denmark	1	0	0	13	0	0	0	0	14
Finland	0	0	0	0	0	15	0	1	16
France	0	0	1	0	14	0	5	7	27
Great Britain	9	0	0	13	2	1	10	0	35
Germany	0	10	13	15	0	0	0	8	46
Ireland	0	14	0	0	13	0	0	0	27
Italy	0	10	12	0	4	0	8	0	34
Latvia	13	0	0	0	0	0	0	0	13
Luxembourg	0	0	14	0	0	0	0	0	14
Poland	0	0	0	0	0	8	0	0	8
Portugal	0	14	13	0	0	10	15	0	52
Spain	0	0	0	0	7	0	0	0	7
Sweden	0	2	0	10	0	0	0	17	29
Switzerland	3	0	1	0	9	13	12	0	38
Ukraine	0	0	12	0	0	0	0	0	12

Instruments

A sociodemographic questionnaire was also applied (to collect data on nationality, chronological age, gender, sport experience, national team experience, weekly training sessions and weekly training volume). Perception of Success Questionnaire (POSQ) is considered one of the best scales to meet the conceptual criteria of measure orthogonal achievement goals in sport (Duda & Whitehead, 1998). This instrument was prepared to measure the

dispositional orientation of the achievement goals within the sports environment. Participants were asked to respond to the POSQ (Roberts et al., 1998), which includes 12 items like "when playing ultimate, I feel most successful when..." by circling one of the letters to the right of the statement that best indicates how you feel. A = strongly agree; B = . . .; C = Neutral; D = . . .; E = Strongly disagree for the composite reliability value of each sub-scale. The confirmatory factor analyses performed by Roberts et al. (1998) revealed that the POSQ is a reliable and valid instrument to

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measure achievement goal orientations in the context of sport and physical activity, both in adults and in children.

Table 2. Descriptive statistics for chronological age and training information for the total sample.

	Unit	Range		Mean		Standard deviation
		Min	Max	Value	95% CI	
Chronological age	years	18.0	59.4	34.7	33.1 to 36.2	9.7
Sport experience	years	1	11	8.1	7.6 to 8.6	3.1
National team experience	years	1	11	3.6	3.0 to 4.1	3.3
Weekly training sessions	n	1	4	2.0	1.9 to 2.1	0.8
Weekly training volume	min	30	400	191.3	178.8 to 204.6	82.8

Statistical Analysis

Descriptive statistics were calculated for training information and each subscale of the POSQ. The Cronbach's Alpha values were computed and used as a measure of reliability. An analysis of Variance (ANOVA) was used to compare dispositional orientations by UF divisions (i.e., women's, men's, mixed, master women's, master men's, master mixed, grand master men's, great grand master men's). Alpha level was set at 0.05. If a comparison was significant among UF divisions, pairwise comparisons with Tukey's honestly significant difference test was used to identify which groups differed. Statistical analyses

were done with SPSS version 27.0 (SPSS Inc., IBM Company, N.Y., USA).

RESULTS

Descriptive statistics for the total sample on the subscales of POSQ are presented in Table 3. On average, UF athletes reported higher levels of perceived task orientations. The POSQ demonstrated reasonable internal consistency (values of $\alpha = 0.90$ and $\alpha = 0.81$ for Task and Ego orientation, respectively) for the examined sample.

Table 3. Descriptive statistics and internal consistency of the POSQ subscales for the total sample.

	Range		Mean		Standard deviation	Cronbach's Alpha
	Min	Max	Value	95% CI		
Task	1	5	4.17	4.10 to 4.24	0.80	0.90
Ego	1	5	3.13	3.05 to 3.20	0.83	0.81

Comparisons between UF divisions on the POSQ subscales are presented in Table 4. Scores demonstrated that there was a significant main effect for UF division. When we analyse the data referring to the eight divisions, the mixed division presents the higher task score, while the Master women's division presents the highest ego value. For the task subscale, the three divisions (women's, Men's and Mixed) have

the highest values, and mixed athletes scored significantly higher than grand master men's. As for the ego subscale: Men's scored significantly higher than grand master men's and great grand master men's; and master women's score significantly higher than women's, mixed, master mixed, master men's, grand master men's and great grand master men's.

Table 4. Means and standard deviations by UF divisions on the subscales of POSQ and results of ANOVAs.

	Women's	Men's	Mixed	Master women's	Master men's	Master mixed	Grand master men's	Great grand master men's	<i>F</i>	<i>p</i>
Task	4.27±0.72	4.32±0.78	4.35±0.67 ^a	4.14±0.94	4.00±0.81	4.08±0.82	3.91±0.83	4.14±0.80	2.71	<0.01
Ego	2.91±0.67 ^b	3.39±0.97 ^c	3.11±0.84 ^d	3.61±0.71 ^e	3.13±0.76	3.12±0.67 ^g	2.91±0.87 ^h	2.82±0.77 ⁱ	5.54	<0.001

^a mixed > grand master men's;

^b women's < master women's;

^c men's > grand master men's & great grand master men's;

^d mixed < master women's;

^e master women's > women's; mixed; master mixed; master men's; grand master men's & great grand master men's;

^f master men's < master women's;

^g master mixed < master women's;

^h grand master men's < men's & master women's;

ⁱ great grand master men's < men's & master women's

DISCUSSION

Although competition is an integral feature of sport, and to date, the distinction of this contexts has been largely overlooked in achievement goal research. The aim of this original study was to analyze dispositional orientations among Ultimate Frisbee (UF) athletes according to different divisions. UF athletes surveyed in this study revealed greater task-involving orientation. The variation of achievement goal orientations among UF athletes according to playing division revealed that mixed division athletes were more task-oriented than the other's divisions.

Task-involving climate is positively evaluated by athletes, further as demonstrated in several research studies, which is related to various positive consequences, as enjoyment or effort (Almagro et al., 2015; Vazou et al., 2005). Previous evidence showed that for task-involving climate the strongest indicator is having an important role in individual sports, while in team sports it is cooperative learning (Castro-Sánchez et al., 2018). According to the same authors, this significant and inverse relationship between motivational climate and individual and team sports is particularly highlighted by the greater group cohesion among team sports players. Nonetheless, even in collective sports the categorization according to competitive group could be a source of differentiation.

Our results observed a division-associated variation in dispositional orientation among UF athletes. This result is an interesting indicator about the possibility

of athletes participating in mixed divisions, including both men and women in the team, perceive their performance by more self-referenced criteria. However, these indicators are not confirmed by comparing with the other divisions. The question arises whether mixed teams are more task-involving than the master's and grand masters divisions, where age / experience can be a differentiating element. It has been suggested by van de Pol et al. (2012) that perceived motivational climate may be a more individual-level construct, rather than team-level. Consequently, the variability in perceived climate in sport could be better understood considering the athletes intra-individual experiences across training and competition, although the present study only focused on competition. Regarding the ego-involving, Master Women's division scored significantly higher than the other division's. According to a previous study (Kavussanu, Seal, and Phillips, 2006), as athletes emerge in the sports system, there is an increase in the emphasis over competitive aspects and normative skills, which may explain a trend for a higher ego-involving.

For the task subscale, the three most competitive divisions (women's, Men's and Mixed) present the highest values. UF is somewhat unusual as a team sport insofar as it is self-refereed even at world championship level, and athletes are expected to abide by a code of fair play, Spirit of the Game (Crocket, 2015). The individual features of UF as a team sport, could be capable to improve motivational climate. In

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fact, several authors suggested that task-involving climate is positively associated with moral variables (Boardley & Kavussanu, 2010; Cervelló et al., 2004; Gonçalves et al., 2010; Kavussanu & Ntoumanis, 2003), collective efficacy (Domínguez-Escribano et al., 2017), cooperation (Lameiras et al., 2014), and positive experiences in sport (MacDonald, Dany J.; Côté, Jean; Eys, Mark; and Deakin, Janice, 2011). The results suggest that UF highlights a culture focused on self-assessment and communication, with a variety of environmental and social dynamics. A task-involving climate is created when the focus is on personal skill development regardless of how others perform (Macdonald et al., 2011). Task-involving climate provides an important intervention information to professionals whose responsibility is to lead the team to achieve task orientation goals such as coaches, and physical education teachers. According to Kavussanu, Seal, and Phillips (2006) there is evidence to suggest that achievement goals and the motivational climate play an important role in the various aspects of morality. It is possible that these variables suffer changes over the ages, and that these changes have implications for the social behavior of athletes. The same authors state that as athletes emerge in the sports system, there is an increased emphasis on competitive aspects and normative skills, with older athletes being able to perceive a motivational climate that is more ego-oriented than task-oriented, and thus, the likelihood of engaging in inappropriate behavior is higher. In UF, self-refereeing creates a form of ideological social control whereby rule violations and disputes are dealt with through a well-established 'ritual' of resolution between any two given players in a way that maximizes game flow (Griggs, 2011). Further, transformational leadership and highlight the utility of examining leadership behaviors, a fruitful area of research that has the potential to influence positively on many aspects of team functioning and performance (Callow et al., 2009).

Certain limitations of the current study should not be overlooked. First, we examined the theories from a quantitative perspective. Qualitative research would be useful for enlightening the formulation of flow experiences in a sport setting and its relationship to an athlete's goal orientations. The choice of survey language should be primarily determined by respondent's language proficiencies (Anne-Wil Harzing et al., 2011). Unfortunately, it was not

possible to find all the native languages validated questionnaires of participants in EBUC. So, a uniform version in the English language was used. Secondly, and although a variation associated to group categorization was noted in the present study, it is not possible to clearly explain these differences since there are several factors that might influence the athlete's perception, such as age, experience, gender, or coaching motivational climate. In dispositional orientation was noted. It would be also of interest for future research to examine mixed teams in others team sports competition. This knowledge could provide athletes the opportunities to better recognize their needs and feelings. For example, in the design of a training session, the coach can give athletes the challenge to play with all team. Feedback must be focused on the developmental process and effort and not in sport results or any normative reference, something that is highly promoted during UF competitions or training. So, coaches can help athletes to focus on mastery instead of results. If coaches are not aware to highlight the best attitudes after good performances, it is possible to lose the opportunity to enhance the athlete perception of sport achievement. Therefore, we encourage coaches to balance team's ratio, to promote a good teamwork. As a self-refereed team-sport, UF has the potential to promote teamwork, task cohesion, leadership, and increase friendship-approach goals (Amoroso et al., 2021). It will be important to monitor these variables through time and in the context of training. Thus, it may provide useful data for the improvement of the profession and for the following investigations (Chirivella, 2016; Romero et al., 2018). Finally, future research could extend the current study by examining the effects of team competition on SOTG and performance as a function of group size, with the same or larger groups than employed here.

CONCLUSION

In conclusion, we have provided evidence to indicate that high task orientations of Ultimate Frisbee athletes define success in self-referenced terms, such as through mastering tasks or improving one's own personal skills. Different divisions were differentially influence by dispositional orientations, mixed division presents the higher task score, while the Master women's division presents the highest ego value. For the task subscale, the three divisions (women's, Men's

and Mixed) have the highest scores. There are a variety of environmental and social variables that can influence the observed differentiated dispositional orientation between athletes of different divisions. It would be of interest to understand these differences by isolating some of these variables (e.g., age, gender, experience, training volume, or coach-created motivational climate).

PRACTICAL IMPLICATIONS

Findings from this study can be used to empower coaches to value and pursue a culture focused on self-assessment and communication, with a variety of environmental and social dynamics. As a self-refereed team-sport, UF has the potential to promote teamwork, task cohesion, leadership, and increase friendship-approach goals in different sports.

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CONFLICTS OF INTEREST

No potential conflict of interest was reported by all authors.

CONTRIBUTORS

José Amoroso and João Valente-dos-Santos participated in the design of the scope. Ricardo Rebelo-Gonçalves focused on the introduction, methodology and discussion sections. Guilherme Furtado and Raul Antunes reviewed and edited the manuscript. João Valente-dos-Santos also worked in the methodology and results. All authors contributed with their expertise for the final version of the manuscript.

REFERENCES

1. Adell, F. L., Castillo, I., & Álvarez, O. (2019). Personal and sport values, goal orientations, and moral attitudes in youth basketball. *Revista de Psicología Del Deporte*, 28(3), 100–105.
2. Almargo, B., Bunuel, P., Moreno-Murcia, J., & Spray, C. (2015). Motivational factors in young spanish athletes: A qualitative focus drawing from Self-Determination theory and Achivemente Goal perspectives. *The Sport Psychologist*, 29, 15-28. doi:10.1123/tsp.2013-0045
3. Álvarez, O., Walker, B., & Castillo, I. (2018). Examining motivational correlates of mental toughness in Spanish athletes. / Examinando correlatos motivacionales de la dureza mental en deportistas españoles. *Cuadernos de Psicología Del Deporte*, 18(1), 141–149. <http://ezproxy.baylor.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=128707849&site=ehost-live&scope=site>
4. Amoroso, J.P., Rebelo-Gonçalves, R., Antunes, R., Coakley, J., Teques, P., Valente-dos-Santos, & Furtado, G.E. (2022). Teamwork: a systematic review of implications from Psychosocial constructs for research and practice in the performance of Ultimate Frisbee games. *Frontiers in Psychology*. doi: 10.3389/fpsyg.2021.712904
5. Anne-Wil Harzing, Reiche, B. S., & Pudelko, M. (2011). Challenges in International Survey Research: a Review With Illustrations and Suggested Solutions for Best Practice. *European Journal of International Management*.
6. Appleton, P., Ntoumanis, N., Quested, E., Viladrich, C., & Duda, J. (2016). Initial validation of the coach-created Empowering and Disempowering Motivational Climate Questionnaire (EDMCQ-C). *Psychology of Sport and Exercise*, 22, 53-65. doi:10.1016/j.psychsport.2015.05.008
7. Balaguer, I., Duda, J. L., Atienza, F. L., & Mayo, C. (2002). Situational and dispositional goals as predictors of perceptions of individual and team improvement, satisfaction and coach ratings among elite female handball teams. *Psychology of Sport and Exercise*, 3(4), 293–308. [https://doi.org/10.1016/S1469-0292\(01\)00025-5](https://doi.org/10.1016/S1469-0292(01)00025-5)
8. Biddle, S. J. H., John Wang, C. K., Kavussanu, M., & Spray, C. M. (2003). Correlates of achievement goal orientations in physical activity: A systematic review of research. *European*

Motivational Climate in Ultimate Frisbee

- Journal of Sport Science, 3(5), 1–20. <https://doi.org/10.1080/17461390300073504>
9. Bond, M. H., & Yang, K. S. (1982). Ethnic affirmation versus cross-cultural accommodation: The Variable Impact of Questionnaire Language on Chinese Bilinguals from Hong Kong. *Journal of Cross-Cultural Psychology*, 13(2), 169–185. <https://doi.org/10.1177/0022002182013002003>
10. Bossio, M. R. (2009). Lima motivational y orientacion de meta em futebolistas peruanos de primera division. 9, 5-19.
11. Callow, N., Smith, M. J., Hardy, L., Arthur, C. A., & Hardy, J. (2009b). Measurement of transformational leadership and its relationship with team cohesion and performance level. *Journal of Applied Sport Psychology*, 21(4), 395–412. <https://doi.org/10.1080/10413200903204754>
12. Caporali, J. M. (1988). The Ultimate Alternative. *Journal of Physical Education, Recreation & Dance*, 59(7), 98–103. <https://doi.org/10.1080/07303084.1988.10606264>
13. Castro-Sánchez, M., Zurita-Ortega, F., Chacón-Cuberos, R., López-Gutiérrez, C. J., & Zafra-Santos, E. (2018). Emotional intelligence, motivational climate and levels of anxiety in athletes from different categories of sports: analysis through structural equations. *International journal of environmental research and public health*, 15(5), 894. <https://doi.org/10.3390/ijerph15050894>
14. Cervelló Gimeno, E., Escartí, A., & Balagué Gea, G. (1999). Relaciones entre la orientación de meta disposicional y la satisfacción con los resultados deportivos, las creencias sobre las causas de éxito en deporte y la diversión con la práctica. *Revista de Psicología del deporte*, 8(1), 0007-19.
15. Chirivella, E. C. (2016). La especialidad profesional en Psicología del Deporte. *Revista de Psicología aplicada al Deporte y al Ejercicio Físico*, 1(1), 2.
16. Clark, E., Hamilton, R., & Bowden, R. (1981). Ultimate Frisbee. *Journal of Physical Education and Recreation*, 52(9), 56–58. <https://doi.org/10.1080/07303084.1981.10631065>
17. Crocket, H. (2015). Foucault, flying discs and calling fouls: Ascetic practices of the self in ultimate frisbee. *Sociology of Sport Journal*, 32(1), 89–105. <https://doi.org/10.1123/ssj.2013-0039>
18. Cumming, J., Hall, C., Harwood, C., & Gammage, K. (2002). Motivational orientations and imagery use: A goal profiling analysis. *Journal of Sports Sciences*, 20(2), 127–136. <https://doi.org/10.1080/026404102317200837>
19. Domínguez-Escribano, M., Ariza-Vargas, L., & Tabernero, C. (2017). Motivational variables involved in commitment of female soccer players at different competitive levels. *Soccer and Society*, 18(7), 801–816. <https://doi.org/10.1080/14660970.2015.1067789>
20. Duda, J. (2013). The conceptual and empirical foundations of Empowering Coaching™: Setting the stage for the PAPA project. *International Journal of Sport and Exercise Psychology*, 11(4), 311–318. doi:10.1080/1612197X.2013.839414
21. Edi, F. R. (n.d.). Inovação e Formação de Treinadores Desporto, Inovação e Formação de Treinadores.
22. Fransen, K., Vanbeselaere, N., Exadaktylos, V., Broek, G. Vande, de Cuyper, B., Berckmans, D., Ceux, T., de Backer, M., & Boen, F. (2012). “Yes, we can!”: Perceptions of collective efficacy sources in volleyball. *Journal of Sports Sciences*, 30(7), 641–649. <https://doi.org/10.1080/02640414.2011.653579>
23. Gernigon, C., & Arripe-longueville, F. (2004). on Goal Involvement States in Sport. *Education*, 572–596.
24. Gould, D., & Pick, S. (1995). Sport Psychology: The Griffith Era, 1920-1940 Developments in Sport Psychology: 1920-1940. *The Sport Psychologist*, 9, 391–405.
25. Griggs, G. (2009). ‘When a ball dreams, it dreams it’s a Frisbee’: the emergence of aesthetic appreciation within Ultimate Frisbee. *Sport in Society*, 12(10), 1317–1326. <https://doi.org/10.1080/17430430903204827>
26. Griggs, G. (2011). “This must be the only sport in the world where most of the players don’t know the rules”: Operationalizing self-refereeing and

- the spirit of the game in UK Ultimate frisbee. *Sport in Society*, 14(1), 97–110. <https://doi.org/10.1080/17430437.2011.530013>
27. Hanrahan, S. J., & Biddle, S. J. H. (2002). Measurement of achievement orientations: Psychometric measures, gender, and sport differences. *European Journal of Sport Science*, 2(5), 1–12. <https://doi.org/10.1080/17461390200072502>
 28. Harriss, D. J., MacSween, A., & Atkinson, G. (2019). Ethical standards in sport and exercise science research: 2020 update. *International journal of sports medicine*, 40(13), 813–817.
 29. Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
 30. Kavussanu, M., Seal, A. R., & Phillips, D. R. (2006). Observed prosocial and antisocial behaviors in male soccer teams: Age differences across adolescence and the role of motivational variables. *Journal of Applied Sport Psychology*, 18(4), 326–344. <https://doi.org/10.1080/10413200600944108>
 31. Keegan, R., Harwood, C., Spray, C., & Lavallee, D. (2011). From “motivational climate” to “motivational atmosphere”: A review of research examining the social and environmental influences on athlete motivation in sport. *Sport Psychology*, March, 1–69.
 32. Lam, H., Kolbinger, O., Lames, M., & Russomanno, T. G. (2021). State Transition Modeling in Ultimate Frisbee: Adaptation of a Promising Method for Performance Analysis in Invasion Sports. *Frontiers in Psychology*, 12(May), 1–12. <https://doi.org/10.3389/fpsyg.2021.664511>
 33. Lameiras, J., Almeida, P. L., & Garcia-Mas, A. (2014). Relationships between cooperation and goal orientation among male professional and semi-professional team athletes. *Perceptual and Motor Skills*, 119(3), 851–860. <https://doi.org/10.2466/25.PMS.119c32z4>
 34. Lochbaum, M., Zazo, R., Çetinkalp, Z. K., Wright, T., Graham, K. A., & Kontinen, N. (2016). A meta-analytic review of achievement goal orientation correlates in competitive sport: A follow-up to Lochbaum et al. (2016). *Kinesiology*, 48(2), 159–173. <https://doi.org/10.26582/k.48.2.15>
 35. Méndez-Giménez, A., Fernández-Río, J., & Méndez-Alonso, D. (2015). Original Sport Education Model Versus Traditional Model: Effects on Motivation and Sportsmanship Modelo De Educación Deportiva Versus Modelo Tradicional: Efectos En La. *Revista Internacional de Medicina y Ciencias de La Actividad Física y Del Deporte*, 59, 449–466.
 36. Nicholls, J. G. (1979). Quality and equality in intellectual development: The role of motivation in education. *American Psychologist*, 34(11), 1071–1084. <https://doi.org/10.1037/0003-066X.34.11.1071>
 37. Ntoumanis, N. (2001). Empirical links between achievement goal theory and self-determination theory in sport. *Journal of Sports Sciences*, 19(6), 397–409. <https://doi.org/10.1080/026404101300149357>
 38. Roberts, G. C., & Treasure, D. (2012). Advances in motivation in sport and exercise. *Human Kinetics*.
 39. Roberts, G. C., Treasure, D. C., & Balague, G. (1998). Achievement goals in sport: The development and validation of the perception of success questionnaire. *Journal of Sports Sciences*, 16(4), 337–347. <https://doi.org/10.1080/02640419808559362>
 40. Romero, J. R., Baidez, M. M., & Chirivella, E. C. (2018). Entrenamiento psicológico mediante el coaching motivacional en alto rendimiento: una experiencia en marcha atlética. *Revista de Psicología Aplicada Al Deporte y El Ejercicio Físico*, 3(2), 1–9. <https://doi.org/10.5093/rpadef2018a11>
 41. Selfrizz, J. J., Duda, J. L., & Chi, L. (2016). The Relationship of Perceived Motivational Climate to Intrinsic Motivation and Beliefs about Success in Basketball. *Journal of Sport and Exercise Psychology*, 14(4), 375–391. <https://doi.org/10.1123/jsep.14.4.375>
 42. Smith, A. L., Balaguer, I., & Duda, J. L. (2006). Goal orientation profile differences on perceived motivational climate, perceived peer

Motivational Climate in Ultimate Frisbee

- relationships, and motivation-related responses of youth athletes. *Journal of Sports Sciences*, 24(12), 1315–1327.
<https://doi.org/10.1080/02640410500520427>
43. Spencer-Cavaliere, N., Kingsley, B. C., & Gotwals, J. K. (2017). Ethic of care and the competitive Ultimate Frisbee playing experiences of young women. *Leisure Studies*.
<https://doi.org/10.1080/02614367.2015.1105859>
44. Tello, F. P. H., Martínez, L. N., Núñez, M. L., & Calvo, T. G. (2010). A structural model of goal orientation in sports: Personal and contextual variables. *Spanish Journal of Psychology*, 13(1), 257–266.
<https://doi.org/10.1017/S1138741600003838>
45. Treasure, D. C., & Roberts, G. C. (1994). Perception of Success Questionnaire: preliminary validation in an adolescent population. *Perceptual and Motor Skills*, 79(1 Pt 2), 607–610.
<https://doi.org/10.2466/pms.1994.79.1.607>
46. Van de Pol, P. K. C., Kavussanu, M., & Ring, C. (2012). Goal orientations, perceived motivational climate, and motivational outcomes in football: A comparison between training and competition contexts. *Psychology of Sport and Exercise*, 13(4), 491–499.
<https://doi.org/10.1016/j.psychsport.2011.12.002>
47. Vazou, S., Ntoumanis, N., & Duda, J.L. (2006). Predicting young athletes' motivational indices as a function of their perceptions of the coach- and peer-created climate. *Psychology of Sport and Exercise*, 7, 215–233. doi:10.1016/j.psychsport.2005.08.007
48. WFDF, O., Ultimate, W., & Committee, R. (2009). WFDF Rules of Ultimate 2009. 1–17.