*Review*

# Empowering and Disempowering Motivational Coaching Climate: A Scoping Review

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**Abstract:** The multidimensional model of empowering and disempowering coach climates has great relevance within the scope of intervention in the context of Sport Psychology. This scoping review of studies summarizes the scientific production of the empowering and disempowering motivational climates. The search comprised the Web of Science, Scopus, Psycinfo, and Pubmed databases for English, Portuguese, and Spanish articles published between 2013 and 2022. A total of 44 articles were found, of which 22 were included in the present study: 16 concerned cross-sectional studies, four were psychometrics validation studies, one involved a transversal cohort study, and one included a qualitative study. The questionnaire EDMCQ-C (Coach-created Empowering and Disempowering Motivational Questionnaire) is the most used and with the necessary psychometric qualities when it comes to assessing the empowering and disempowering motivational climates and their various impacts. We describe results concerning the measurement, antecedents, and effects of empowering and disempowering coach climates. Future research should invest in the study of empirical evidence that could be added to the existing nomological framework, considering antecedents, development, direct and indirect effects, moderating effects, aggregated effects, and qualitative studies.

**Keywords:** coaching motivational style; sport psychology; scoping review

## 1. Introduction

Generally speaking, the investigation has shown that the motivational climate created by the coach has a heavy influence on the quality of sports practice engagement, as well as in the development of the overall well-being of athletes [1]. It is evident in the literature, that the motivational climate created by the coach has an active role promoting the athletes' capabilities as well as stimulating their vulnerabilities [2,3].

On that note, the climate can be structured in a way that promotes greater empowerment, being used as a leverage for pleasure [4] and to boost self-esteem [5] or, symmetrically, could disempower the athlete, harming his well-being and optimal performance [6].

Two of the most relevant contemporary socio-cognitive theories in the field of sport that support the theoretical framework of the present investigation are the Achievement Goal Theory (AGT) [7,8] and the Self-Determination Theory (TDA) [2,3]. The above-mentioned theories argue that the social and psychological context or motivational climate created by the coach substantially influences the athlete's experience in sport, namely the development of their motivation and well-being.

Above all, both theories state that the behavior and interaction style of the coach will substantially influence how young athletes live their sport experience, especially when it comes to their cognition, emotions, and behaviors [9]. The essential aspects of the

motivational climate created by the coach can be found in both theories, as well as the motivational mechanisms from which it will then influence the way athletes feel, think, and act [9].

In line with these principles, the athletes' needs and interests will be molded by their perception of the existing variations in the social and psychological environment that surrounds them. This will either favor or hinder their involvement in sport and consequently, the development of their competences and potentialities, as well as their physical and emotional well-being [10].

The theoretical assumptions present in the referred motivational theories are part of the multidimensional approach of the coach motivational climate developed by Duda (2013) [9]. She proposes a configuration of the motivational scenario of "empowerment" from the task-oriented dimensions that boost autonomy and social support, and the scenario of "disempowerment" characterized by the ego-oriented dimensions and a controlling style.

A task-involving environment developed by the coach is associated with positive and adaptative cognitive and emotional responses among athletes, while an ego-involving environment has been linked to negative cognitive and emotional responses and a maladaptive achievement pattern [11].

The autonomy supportive coach is characterized by offering participants autonomy and significant options, favoring their involvement in the decision-making process, taking the perspective of their players, being understandable, flexible, and motivating them to be interested in the task itself [2,3].

Empirical studies reinforce that a motivational climate supporting autonomy promotes harmonious passion [12], optimal performance [13], and commitment [14]; decreases fear of failure [15] and reflects a significant influence when it comes to burnout prevention [16].

According to Bartholomew et. al [17] the controlling style is characterized by an authoritarian attitude, pressure, and demands towards his athletes to behave and think in a very specific way, using dictatorial communication and expressing a tendency to influence athlete's personal lives.

A controlled motivational climate promotes an increase in negative emotions, fear of failure, and burnout [15,16]. It diminishes performance [18] and hinders the athletes' growth and potential, as well as their physical and emotional well-being [10].

The dimension of social support is defined by the way in which the coach encourages the individual values of each player, as a person and as an athlete [19]. Certainly, the motivational contexts that foster social support in athletes leverages the satisfaction of the basic psychological need for relationships [20] and expresses a positive association with several types of self-determined motivation [21].

In this context, the existence of a motivational climate of greater or lesser "empowering" and of greater or lesser "disempowering" is evident, depending on the psychosocial characteristics that stand out in the environment.

According to Duda [1], the motivational climate created by the coach concerns what the coach does and says, as well as the way he/she structures the environment during training, as well as competitions [1]. It is therefore considered that an empowering motivational climate will promote a state of integral health and have a positive impact on the quality of involvement in sports.

Regarding the disempowering climates, studies have revealed that they are associated with deterioration in the level of optimal functioning and overall well-being of the athlete [6].

The instruments considered in the scientific literature to separately measure the main social dimensions of the motivational climates that integrate the Empowering and Disempowering Motivational Coach-created Questionnaire (EDMCQ-C) [22] include: the Health Care Climate Questionnaire (HCCQ) [20], the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) [23], the Social Support Questionnaire (SSQ) [24], and the Controlling Coach Behaviors Scale (CCBS) [25].

Furthermore, there is the Multidimensional Motivational Climate Observation System (MMCOS) [26], which is based on Duda's (2013) [9] approach to motivational climates. This questionnaire evaluates the atmosphere of a training session and determines if it is promoting a positive and motivating environment for the participants.

*Present Study*

It is noteworthy that the multidimensional model of empowering and disempowering coach climates created by Duda (2013) [9] has still been little studied, regarding empirical research, however, it proves to be of great relevance within the scope of intervention in the context of Sport Psychology.

On the other hand, it was considered the fact that most studies developed in this area are restricted to motivational climates and their impacts anchored separately to the AGT and the SGT, not contemplating per se the multidimensional model of the empowering and disempowering created by Duda (2013) [9] in its entirety.

In this sense, we propose that a summary of existing empowering and disempowering motivational climate research in sport would be valuable for sport researchers in determining current trends/gaps in the literature and would inform of the value of assessing the empirical research on this topic in sport contexts.

To this end, it is intended in this review to explore extensively the empowering and disempowering motivation model in the sport literature.

A scoping review framework was determined to be optimally suited for addressing the study purpose. This methodology was selected over other forms of synthesis for a variety of reasons. Firstly, the assemblage of various sources of data can be used to identify trends in the literature and generate new research questions. Secondly, because the investigation regarding this opposite motivational climates in the context of sport is a topic of great relevance, the inclusion of all forms of evidence will likely broaden the list of publications eligible for inclusion, thus improving the scope of the resulting review.

This breadth may also provide coaches and sport psychologists with a more comprehensive overview of the research being conducted in this area and may provide empirically supported guidance about the impact of the empowering and disempowering motivational climate for athletes. Lastly, scoping reviews can be particularly useful when examining the extent, range, and nature of a construct in an area not yet extensively reviewed [27].

A preliminary search for existing scoping reviews addressing the empowering and disempowering motivational climate in sport was conducted prior to beginning the current investigation, however, none were found.

With that in mind, this study sought to systematize, in a clear, objective, and methodological way, research on this topic since January 2013 (when this model was developed) to January 2022, through the following criteria:

(1)  Synthesis and description of the main characteristics and results of the studies;
(2)  Portray the different instruments used;
(3)  Formulate reflections on implications for practice and for future investigations.

## 2. Materials and Methods

The scoping review framework described by Arksey and O'Malley [28] was used as an overall template for this study, but recent advances to the methodology were also considered [29,30] to improve overall review quality. The scoping review process involves distinct stages: identifying the research question, identifying relevant studies, study selection, charting the data, collating, summarizing, and reporting the result [28,31].

### 2.1. Literature Search Strategy

The strategy process was outlined by a preliminary analysis in order to identify the most appropriate databases and keywords to use in a literature review. The goal of the study and the range of years included in the review were taken into account when

selecting databases in order to ensure that the search would yield the maximum number of relevant papers.

For this review, a two-step process for selecting studies was developed. The study authors worked in pairs to review the titles and abstracts in step 1 and then the articles in step 2. When a review pair disagreed about inclusion or exclusion, the team met to discuss and agree.

Thus, an extensive search of scientific papers was conducted from 1 January 2013 until 31 January 2022, using four different databases, namely: Web of Science, Scopus, Psycinfo, and PubMed. For the particular scope of the research, only articles were consulted. In addition to the document limitation, the bibliography references were screened to steer clear of missing any relevant articles that are not found in the initial search.

The specific keywords such as "empowering motivational climate," "disempowering motivational climate," "empowering coaching", "disempowering coaching," "coaching climate," "empowering sport coaching," "disempowering sport coaching," "athletes," "sports" were explored separately or in different combinations, with the use of "AND" or "OR" in the four databases (Web of Science, Scopus, Psycinfo, and PubMed) to find relevant articles in English, Portuguese, and Spanish published between 2013 and 2022.

The survey was carried out between the 1st and the 15th August of 2022. The selection of the articles considers the subsequent inclusion criteria: (1) no restrictions with regard to study design; (2) published between January 2013 and August 2022; (3) written in English, Spanish, and Portuguese; (4) articles which measure the multidimensional model of the empowering and disempowering motivational coaching climate in the context of sports. The exclusion criteria envisage: (1) systematic reviews; (2) scoping reviews; (3) studies published after August 2022; (4) articles in context of physical activity; (4) articles published in books.

### *2.2. Charting the Data*

Initially, data were catalogued and sorted using Endnote XV and Microsoft Excel. Two investigators reviewed each article, with rotation of each pair of reviewers to enhance reliability. Data were summarized and entered into the Excel spreadsheet and organized. Data for this study were extracted by one author using a predefined checklist. The information obtained included: bibliographic information (authors, year of publication), country of the research, study design, participants' characteristics (gender and age), the aim of the study, instruments used, variables (PA), main results, and methodology quality score. Extracted data were then verified and analyzed by two other authors.

The quality of the studies' methodological content was assessed using the Downs and Black checklist [32], which consists of 27 questions that evaluate the study's design, statistical procedures, and clarity of conclusions.

The checklist was used by two reviewers and any discrepancies were resolved by an external reviewer. All reviewers were trained and familiarized with the checklist before use. The checklist was used previously in the sports science field. The items 13, 14, 15, and 24 of the checklist were not considered in the present systematic review, as they were not scored in the papers under analysis, resulting in a modified scale with a maximum of 23 points from the original one. No studies were excluded from the review due to low quality assessment score.

## 3. Results
### *3.1. Study Selection*

A total of 44 titles were identified as promising papers after searching various databases (Figure 1). Subsequently, 10 of them were excluded before screening for being duplicated. After the screening phase, seven records were excluded based on review titles and abstract, reducing the selection to 27 papers. After reviewing the full papers, four were excluded from the sample as they did not meet the inclusion criteria. Two of these papers were related to the context of physical activity, and the other two were considered not relevant

or aligned with the topic of the research. This resulted in a final sample of 22 papers that underwent further analysis.
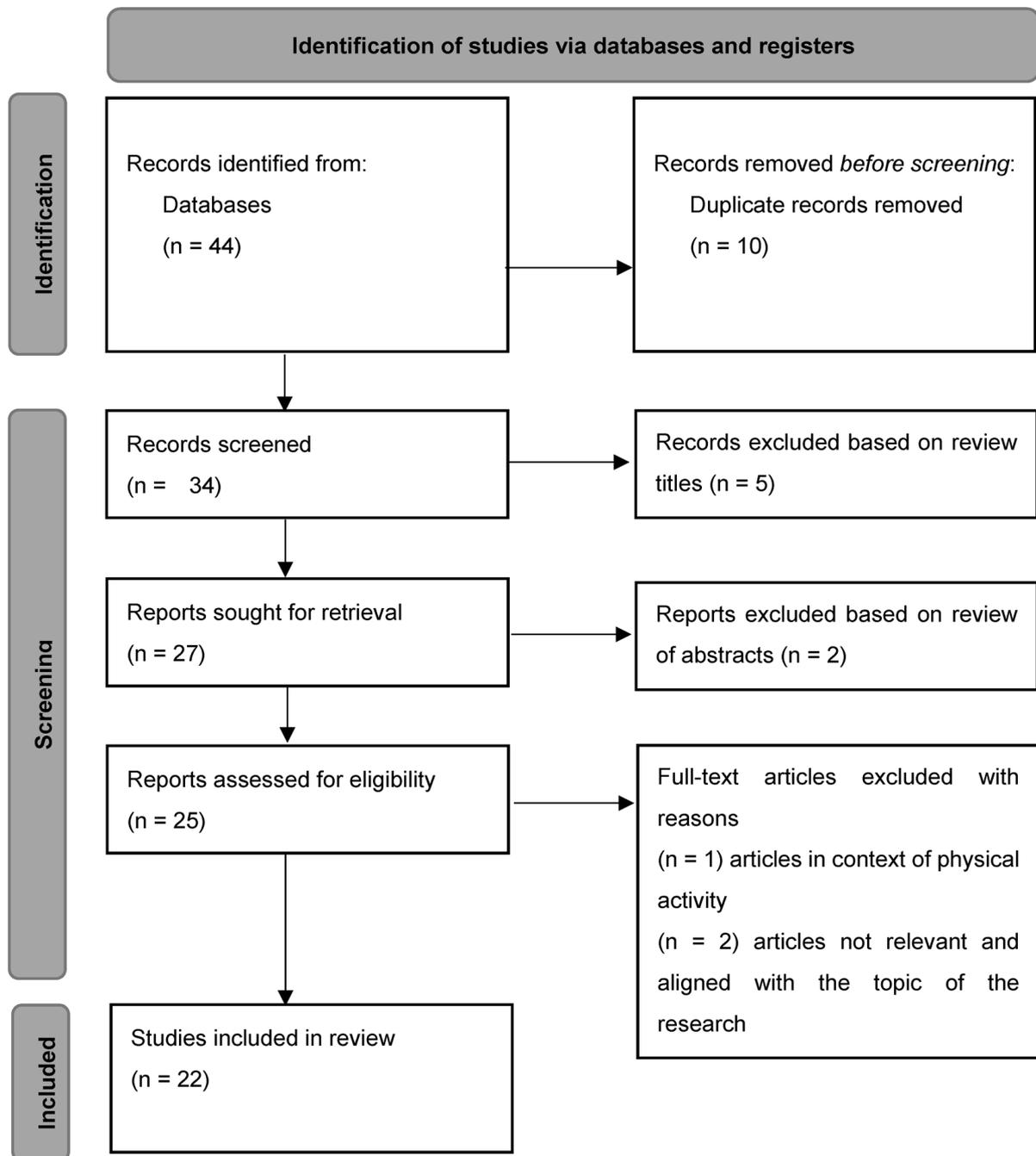
**Identification of studies via databases and registers**

| Identification | Records identified from:<br>Databases<br>(n = 44) | → | Records removed *before screening*:<br>Duplicate records removed<br>(n = 10) |

| Screening | Records screened<br>(n = 34) | → | Records excluded based on review titles (n = 5) |
| | Reports sought for retrieval<br>(n = 27) | → | Reports excluded based on review of abstracts (n = 2) |
| | Reports assessed for eligibility<br>(n = 25) | → | Full-text articles excluded with reasons<br>(n = 1) articles in context of physical activity<br>(n = 2) articles not relevant and aligned with the topic of the research |

| Included | Studies included in review<br>(n = 22) | | |

**Figure 1.** PRISMA flow diagram showing the studies included and excluded.

### 3.2. Quality of the Studies

The quality of the studies was assessed using the 23-point Downs and Black checklist. The studies with the highest quality were developed by Appleton et al. [6] and Krommidas et al. [33]. The studies with the lowest quality assessment were conducted by Oliveira et al. [34], Saarinen et al. [35], and Ohlert et al. [36]. The quality assessment results of the studies are presented in Table 1.

**Table 1.** Synthesis of the selected studies included in this review and their quality.

| Author | Design | Country | N | Aim of the Study | Instruments | Variables (PA) | Results | Quality Score |
|---|---|---|---|---|---|---|---|---|
| Appleton et al. (2016) [6] | Cross-sectional | UK | 406 athletes (274 M) (132 F) Age: 13–53 years old | Examine the interactive effects of coach-created empowering and disempowering climate on athletes' health and functioning | 1- EDMCQ-C 2- Intrinsic Motivational Inventory 3- ABQ-Q 4- Physical Self Description Quest. 5- Physical Symptom Checklist | 1- Emp Clim 2- Disemp Clim 3- Enjoyment 4- Reduced accomplishment 5- Exhaustion 6- Devaluation 7- Global self-worth 8- Symptoms of physical ill-health | The sub-dimensions of a disempowering climate are negatively related to indices of athletes' health and functioning. In opposition, the facets of the empowering climate positively correlated, to indices of athletes' health and optimal functioning | 18 |
| Appleton et al. (2016) [22] | Psychometric Validation | UK | 2273 athletes *M* age: 8–17 years old | Examine the initial psychometrics attributes of the EDMCQ-C Questionnaire | 1- PMCSQ-2 2- HCCQ 3- CCBS 4- SSQ6 | 1- Task-involving 2- Autonomy supportive 3- Social support 4- Ego-involving 5- Controlling coaching | The EDMCQ-C is a promising questionnaire to assess empowering and disempowering facets of the motivational climate. | 16 |
| Zourbanous et al. (2016) [37] | Cross-sectional | Greece | 289 football players (males) Age: 9–15 years old | Examine the role of self-talk in the relationship between perceptions of the coaching climate and'self-efficacy. | 1- ASTQS 2- EDMCQ-Q 3- Measure of self-efficacy beliefs in football | 1- Self-talk in sport 2- Emp climate 3- Disemp climate 4- Self-efficacy in sport | Only positive self-talk mediated the relationship between empowering climate and self-efficacy. No relationship emerged between disempowering climate and self-efficacy | 13 |
| Smith et al. (2017) [38] | Cross-sectional (observational study) | UK | 17 grass-roots soccer coaches (16 M; 1 F) *M* age: 44,7 | Analyse the motivational coaching environment in training and competition in youth sport. | MMCOS | 1- Autonomy-supportive 2- Controlling 3- Task-involving 4- Ego-involving 5- Relatedness-supportive 6- Relateness-thwarting | Coaches were observed to create a less empowering and more disempowering environment in competitions comparing to trainings. | 14 |
| Castillo Jimenez et al. (2017) [39] | Cross-sectional | Spain | 240 football players | Evaluate the perception of the empowering climate and his predictor role on self-determined motivation by the satisfaction of the basic psychological needs (BPNS). | 1- EDMCQ-C 2- Scale of Perceived autonomy in Sport 3- BRSQ 4- Scale of Perceived motivation | 1- Emp Clim 2- Satisf of the need for autonomy 3- Satisf of the need to be competent 4- Satisf of the need of afiliation 5- Satisf of the BPNS as a wole 6- Self-determined motivation | The mediating role of the BPNS as a whole between the empowering climate and self-determined motivation was confirmed. | 16 |
| Fenton et al. (2017) [40] | Cross-sectional | UK | 112 male and female sports participants Age: 9–16 years old | Examine the influence of the coaching climate on daily engagement in MVPA * and his association with adiposity. | 1- Bioeletrical Impedance Scales 2- ActiGraph 3- GT3X 4- EMDCQ-C 5- BRSQ 6- IMI | 1- MVPA 2- Heigh, weight and body composition 3- Perceptions of motivational climate 4- Motivations regulations | The creation of more empowering youth sport environments hold value for advancing habitual levels of engagment in MVPA and could prevent adiposity. | 14 |

**Table 1.** *Cont.*

| Author | Design | Country | N | Aim of the Study | Instruments | Variables (PA) | Results | Quality Score |
|---|---|---|---|---|---|---|---|---|
| Solstad et al. (2018) [41] | Cross-sectional | Norway | 169 youth football coaches (152 M; 17 F) Age: 16–60 years old | Investigate the associations between the empowering and disempowering coach-created climate and the levels of the trainers well-being across the season. | 1- HCCQ 2- PMCSQ-2 3- SSQ 4- CCBS 5- BNSAW 6- PANAS 7- TSVS | 1- Autonomy support 2- Task-involving 3- Social support 4- Controlling behaviors 5- Ego-involving 6- Basic psych needs 7- Subjective vitality 8- Positive affect | The coaches who gave higher levels of empowering and lower levels of disempowering coaching to their athletes at the beginning of the season, also reported higher levels of well-being at the end of the sesaon (positive affect and basic need satisfaction). | 16 |
| Oliveira et al. (2018) [34] | Psychometric validation | Portugal | 963 athletes males Age: 11–18 years old | Develop the cross-cultural adaption of the Portuguese version of the Empowering and Disempowering Motivational climate (EDMCQ-C) and examine the factorial invariance between Brazilians and Portuguese. | EDMCQ-C | 1- Task-involving 2- Autonomy supportive 3- Social Support 4- Ego-involving 5- Controlling coaching | The study analyzes reflected a structure with 32 items, 5 first-order factors and 2 second-order factors for athletes from both countries. The invariances between Portuguese and Brazilian athletes were also demonstrated. | 12 |
| Borrueco et al. (2018) [42] | Cross-sectional | Spain | 197 soccer players (15, 23 % = F) Age: 13–19 years old | Examine the association concerning the perceived coaching climate, the sportpersonship orientation and the intention to cheating in the sport context. | 1- MSOS 2- CDED 3- EDMCQ-C | 1- Predisp to acceptance of gamesmanship 2- Predisp to to acceptance of cheating 3- Full commitment 4- Respect for rules and officials 5- Respect for social conventions 6- Emp clim 7- Disemp clim | The perception of an empowering climate is linked to prosocial behaviors (i.e., sportspersonship). Contrary, a perception of a disempowering climate is linked to the acceptance of antissocial behaviors (i.e., cheating and gamesmanship). | 14 |
| Legg et al. (2018) [43] | Cross-sectional | USA | 8 Coaches 57 Basketball players | Examine the impact of observing and providing feedback to youth sport coaches, related to creation of an empowering climate and the subsequent relation with youth development outcomes (PYD) | 1- EDMCQ-C 2- YES-S | 1- Task-involving 2- Autonomy supportive 3- Ego-involving 4- Controlling coaching 5- PYD (within sport) 6- PYD (outside sport) | The results did not support a significant impact of the observation concerning the creation of an empowering climate. The elements of an autonomy-supportive climate are most likely to predict positive (PYD). | 12 |
| Gutiérrez-García et al. (2018) [44] | Cross-sectional | Mexico | 97 baseball pitchers Age: 13–16 years old | Evaluate the moderating effect of autonomous motivation regarding the relations among the perception of the empowering climate and enjoyment. | 1- EDMCQ-C 2- SMS-II 3- SSI | 1- Emp Clim 2- Autonomous motivation 3- Enjoyment | The autonomous motivation moderates the association among the empowering coaching climate and enjoyment in the baseball performing. | 14 |

**Table 1.** *Cont.*

| Author | Design | Country | N | Aim of the Study | Instruments | Variables (PA) | Results | Quality Score |
|---|---|---|---|---|---|---|---|---|
| Mosqueda et al. (2019) [43] | Cross-sectional | Mexico | 71 volleyball players Age: 14–18 years old | Analyse the association between the empowering climate and enjoyment by the mediation of the autonomous motivation. | 1- EDMCQ-C 2- SMS- II 3- SMS 4- SSI | 1- Emp Clim 2- Autonomous motivation 3- Enjoyment | The association between the empowering climate, autonomous motivation and enjoyment were positive and significant. The autonomous motivation acts as a mediator in the relation created between the empowering climate and enjoyment. | 16 |
| Into et al. (2020) [45] | Cross-sectional | Finland | 414 athletes (152 M; 17 F) Age: 17–68 years old | Investigate what kind of coaching-climates experienced by student-athletes in sport high schools and how these coaching climates related to symptoms of burnout in sports and school. | 1- EDMCQ-C 2- SBI 3-SpBI-DC | 1- Autonomy support 2- Task-involving 3- Social support 4- Controlling style 5- Ego-involving 6- Exhaustion 7- Cynicism | Student-athletes in the extremely disempowering groups reported higher levels of sport burnout than students-athletes in the other two groups, they also reported higher levels of school burnout than student-athletes in the empowering group. | 14 |
| Saarinen et al. (2020) [35] | Qualitative | Finland | 17 finish cross-country skiers (11 M; 6 F) Age: 23–34 years old | Explore student-athletes' perceptions of empowering and disempowering motivational climates and their possible implications for athletes' dual career experiences. | Semi-structured interviews | 1- Autonomy supportive 2- Socially supportive 3- Ego-involving 4- Controlling coaching 5- Socially unsupportive | The majority of athletes had experiences of disempowering coaching climates due to coaches' exclusive emphasis on athletic performance. Athletes' experiences of coaches' involvement in their educational goals were limited and influence athletes' possibilities to explore other career options outside the sport context. | 12 |
| Solstad et al. (2020) [46] | Psychometric validation | Norway | 780 coaches from five European countries (698 M; 54 F) *M* age = 36.4 | Examine the psychometric properties of coach-adapted version of the Empowering and Disempowering Motivational Climate Questionnaire (EDMCQ-C) using Bayesian structural equation model (BSEM). | EDMCQ-C | 1- Task-involving 2- Autonomy supportive 3- Social Support 4- Ego-involving 5- Controlling coaching | The results did not support a 34-item five-factor, hierarchical, a two-factor BSEM or a two-factor BSEM model across the participating countries. However, supported a reduced 19-item first, two-factor BSEM model. | 15 |
| Sukys et al. (2020) [47] | Psychometric validation | Lithuania | 712 athletes *M* age: 13–17 years old | Evaluate the Lithuanian translation of the Empowering and Disempowering coach-created Questionnaire (EDMCQ-C). | 1- EDMCQ-C 2- Youth Sport Values Questionnaire 3- SMS 4- Rosemberg's Self-esteem Scale 5- PABSS | 1- Emp Clim 2- Disemp Clim 3- Moral 4- Competence 5- Status 6- Intrinsic motivation 7- Amotivation 8- Self-esteem | The Lithuanian version of the EDMCQ-C is a promising scale for the assessment of athletes' perceptions of the empowering and disempowering features of the motivational climate created by their coach. | 14 |

**Table 1.** *Cont.*

| Author | Design | Country | N | Aim of the Study | Instruments | Variables (PA) | Results | Quality Score |
|---|---|---|---|---|---|---|---|---|
| Martinez-González et al. 2021 [48] | Cross-sectional | Spain | 414 university athletes (49.5 % M; 50.5 % F) Age: 17–33 years old | Analyse whether athletes' perception of empowering and disempowering climates were related to their goal reengagement through the mediation of goal motive. Examine the interaction between the two climates when they predict reengagement through athletes' goal motives. | 1- EDMCQ-C 2- Goals Motives Questionnaire 3- Goal Adjustment Scale (GAS) | 1- Emp Clim 2- Disemp Clim 3- Autonomous goal motives 4- Controlled goal motives 5- Goal reengagement | The perceived empowering climate positively predicted autonomous goal motives, which in turn had a positive relationship with goal reengagement. Conversely, perceived disempowering climate positively predicted controlled goal motives, which were not related to goal reengagement. | 16 |
| Chu et al. (2021) [49] | Cross-sectional | USA | 225 athletes 56.9% = Male *M* age = 15, 24 years old | Examine the direct and indirect effects of perceived coach-created environment on high school athletes' moderate-to-vigorous physical activity (MVPA) and sedentary behavior (SB) during sport. high scholl athletes moderate-to-vigourous phsysical activity (MVPA) and sedentary behavior (SB) during sport through satisfaction and frustration of basic psychological needs. | 1- EDMCQ-C 2- Autonomy scale 3- Perceived competence scale 4- IMI 5- NRS 6- Wrist-worn Actical [R] activity monitor | 1- Emp Clim 2- Disemp Clim 3- Need satisfaction 4- Need frustration 5- MVPA % 6- SB % | An empowering climate positively predicted need satisfaction and negatively predicted need frustration. A disempowering climate positively predicted need frustration and had a significant negative direct effect on MVPA%. | 12 |
| Ruiz et al. (2021) [50] | Cross-sectional | UK | 262 athletes 52% female *M* age = 22, 75 | Examine the interplay between athletes' perceptions of empowering and disempowering motivational coach-created climate, achievement goal orientations, motivations regulations and emotions | 1- EDMCQ-C 2- BRSQ 3- TEOSQ 4- SEQ | 1- Emp Clim 2- Disemp Clim 3- Task-orientation 4- Ego-orientation 5- Autonomous motivation 6- Controlled motivation 7- Happiness 8- Excitement 9- Anxiety 10- Dejection 11- Anger | Perceptions of a an empowering climate had positive direct effects on happiness. Perceptions of a disempowering climate positively predicted anxiety, dejection, and anger via ego-orientation and controlled motivation. Indirect effects of empowering to happiness and excitement via task-orientation and autonomous motivation emerged. | 14 |
| Castillo-Jiménez et al. (2022) [51] | Cross-sectional | Mexico | 381 young male soccer players Age: 12–14 years old | Evaluate the role of the basic psychological needs (BPN) and self-determined motivation in the association created between the perceptions of the motivational climate and the intentions to continue in the sport practice. | 1- EDMCQ-C 2- PASS 3- IMI 4- NRS 5- PNTS 6- BRSQ-6 7- [52] | 1- Emp Clim 2- Disemp Clim 3- Satisfaction of BPN 4- Self-determined motivation 5- Intention to continue 6- Intention to dropout | The needs satisfaction and self-determined motivation partially mediated the association between the empowering climate and the intention to continue in sport pratice. The need-thwarting and self-determined motivation totally mediated the association created among the disempowering climate and the intention to dropout. | 16 |

**Table 1.** *Cont.*

| Author | Design | Country | N | Aim of the Study | Instruments | Variables (PA) | Results | Quality Score |
|---|---|---|---|---|---|---|---|---|
| Krommidas et al. (2022) [33] | Transversal | Greece | 8 Coaches 57 Basketball players | 1- Examine the effect of coach-initiated motivational climate and parental support on intrinsic motivation, enjoyment, subjective vitality, sport-related violence, and academic achievement of young soccer players. 2- Examine if intrinsic motivation mediates the impact of coach-iniciated climate and parental support on the above endogenous variables. | 1- EDMCQ-C 2- Greek version of the Parental Involvement in Sport Questionnaire 3- BRSQ 4- IMI 5- Subjective Vitality scale 6- [53] 7- [54] | 1- Emp Clim 2- Disemp Clim 3- Parental support 3- Intrinsic motivation 4- Enjoyement 5- Vitality 6-Sport-related violence 7-Academic achievement | The perceived coach initiated empowering climate and parental praise and understanding have indirect effects on sport-related violence, GPA, vitality and sport enjoyment through intrinsic motivation in sport. |  |
| Ohlert et al. (2022) [36] | Cross-sectional | Germany | 644 female athletes *M* age: 20.5 years old | Evaluate the association created between the empowering climate and athlete's experiences of sexual violence. | 1- EDMCQ-D 2- IVIS-D | 1- Emp clim 2- Disemp clim 3- Experience of sexual violence by coach 4- No experience of sexual violence by coach 5- Experience of sexual violence by peer 6- No experience of sexual violence by peer | Athletes with experiences of sexual violence by coaches or peers are higher in the disempowering climate group, comparing to the empowering group. | 12 |

### 3.3. Study Overview Summary

This scoping review includes 22 studies published between January 2013 and August 2022. Data extracted from these studies are represented in Table 1, which is organized chronologically from the oldest to the most recent study.

### 3.4. Synthesis of the Selected Studies Included in the Review

Table 1 provides a summary of the 22 studies included in this review. The studies were conducted in various countries, such as UK (*n* = 5), Finland (*n* = 2), Greece (*n* = 2), Germany (*n* = 1), Mexico (*n* = 3), Spain (*n* = 3), Norway (*n* = 2), Portugal (*n* = 1), USA (*n* = 2), Lithuania (*n* = 1). The majority of the studies were cross-sectional (*n* = 16), four were psychometrics validation studies, one was a transversal cohort study, and one was a qualitative study. In total, 9430 participants were analyzed: 8456 athletes and 974 coaches. Most of the studies reported athletes' gender (*n* = 20) and coach's gender (*n* = 2).

It is noteworthy that only one study out of the 22 included in this review does not report the coach's gender. Most of the studies (*n* = 19) used the Empowering and Disempowering Motivational Coaching Questionnaire (EDMCQ-C) [22] to evaluate the coaching climate. This highlights the prevalence of the EDMCQ-C as a tool for evaluating the motivational climate in sports coaching.

To examine the different dimensions of the coach-created motivational climate separately, various articles used different questionnaires. The Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2) [23] was used to assess the task-involving and ego-involving climates, the adapted version of the Health Care Climate Questionnaire for sport (HCCQ) [20] was used to measure the autonomy support dimension, the Controlling Coach Behaviors Scale (CCBS) [25] to evaluate the controlling climate dimension, and the Social Support Questionnaire adapted version for in Sport (SSQ6) [24] to examine the social support dimension.

Additionally, one study used the Multidimensional Motivational Climate Observing System (MMCOS) [26] to observe attributes of the coach-created motivational climate.

Four studies focused on the psychometric validation and translation of the Empowering and Disempowering Questionnaire (EDMCQ), namely into the English, Persian, Portuguese (Portugal and Brazil), and Lithuanian versions. Emphasizing the fact that one of these studies included in its analysis, coaches from five different countries (England, France, Greece, Norway, and Spain).

On the other hand, three studies centered specifically on the coach behaviors regarding the impacts and differences between the creation of an empowering climate versus a disempowering climate. One of them sought to evaluate the impact of the creation of empowering and disempowering climates by coaches, regarding their well-being across the season: evaluating their subjective vitality, their positive effects, and their satisfaction of basic psychological needs.

The other one concerns the investigation of the influence of observing and giving feedback to youth coaches related to the creation of an empowering climate and the subsequent relation with youth development outcomes. Finally, the objective of the other study was to observe the preferred adopted method by coaches between the empowering and disempowering motivational climate regarding the type of context—at the level of training and competition.

Additionally, seven studies examined the interactive effects of the perception of the empowering and disempowering motivational coach-created with regards to several variables, particularly: the athletes health and functioning; the children's engagement in moderate-to-vigorous physical activity and adiposity; the young soccer players' sportsmanship orientation and disposition to cheating; the students-athletes' symptoms of burnout in sport and school; the students-athletes' implications for their dual career experiences; and the female experiences and observed sexual violence by coaches or peers.

Furthermore, six studies explored the mediating effect of different variables (satisfaction/frustration of basic psychological needs, role of self-talk, autonomous motivation,

self-determination motivation, and goal motivation) in the relationship between both the empowering and disempowering motivational climate with distinct dimensions.

Another study explored, in particular, the effect of the motivational climate created by the coach in conjunction with parental support on enjoyment, subjective vitality, sport-related violence, and academic achievement through the mediation of intrinsic motivation.

In addition to the above, six studies explored the mediating effect of various variables, such as satisfaction/frustration of basic psychological needs, role of self-talk, autonomous motivation, self-determination motivation, and goal motivation on the relationship between the empowering and disempowering motivational climate and different dimensions.

One study specifically examined the effect of the motivational climate in conjunction with parental support on enjoyment, subjective vitality, sport-related violence, and academic achievement through the mediation of intrinsic motivation.

Finally, it is worth mentioning one study that tested the moderating effect of autonomous motivation regarding the perception of the coach-created empowering climate and the enjoyment in the practice.

## 4. Discussion

The main objective of this research was to evaluate the impact of the coaching style using the multidimensional and hierarchical conceptual model of motivational climates created by Duda (2013) [9]. The model takes into account the AGT and the SGT dimensions of the motivational climate, thus enabling an assessment of the athletes' understanding of the prominent psychosocial aspects in training and competition and how they relate to various other factors.

Consequently, it became relevant and essential seeking to gather the studies that investigated motivational climates according to this model. On one hand, there is no study of this nature that brings together the different analyses and subsequent results on this multidimensional model and its implementation. In contrast, it was identified that the studies that exist of this nature focus on the motivational climates based on the assumptions present in the main motivational theories AGT and SGT, being therefore important to understand and deepen the impact of this multidimensional model and its consequences in the context of sport. Thus, encouraging dialogue and reflection for future investigations.

There were 22 research papers that aligned with this study. The following sub-chapters of the discussion will be compiled into three groups: the psychometric validation of the questionnaire EDMCQ-C, the consequences of the empowering and the disempowering climates, as well as the limitations, strengths, and future research, in order to enable a broader view on this matter.

This will facilitate new research to be developed on the empowering and disempowering motivational climates.

### 4.1. Validation of the Questionnaire (EDMCQ-C)

The first study that sought to validate the Empowering and Disempowering Motivational Coach-created Questionnaire (EDMCQ-C) concerns the work developed by Appleton et al. [22].

This study is motivated by the lack of a reduced scale that would allow the assessment of the main dimensions of motivational climates gathered in the AGT and SGT. Considering that, the scales that sought to measure the five dimensions of the motivational climate according to the AGT and SDT, had a joint structure of 67 items.

In order to bridge this literature gap, this study aims to reduce the number of overall items required to measure empowering and disempowering climates to a more manageable number, to identify the best approach to modeling the factor structure of the scale, and to establish the internal reliability of athletes' scores on the EDMCQ-C.

The total sample in this series of studies consisted of 2273 children and teenagers from sport teams in England and Wales. All participants were competing at the grassroots level

and completed the questionnaire at the start of a competitive season and after at least four weeks of interaction with their coach.

The results of the subsequent analyses resulted in a total of 32 items': 17 empowering items and 15 disempowering items. The retained items loaded significantly ($p < 0.001$) on their intended factor and the standardized factor loading for retained items ranged between 0.51 and 0.79.

Some limitations were identified in this study. Alternative indicators of validity and reliability were not considered. The retained items in the EDMCQ-C measure two facets of an ego-involving climate (i.e., unequal recognition and punishment for mistakes). No items were assessed capturing the third aspect of ego-involving coaching via the PMCSQ-2 [23], namely intra-team member rivalry, a previously considered characteristic of a disempowering climate.

Another limitation of the study is due to the multilevel nature of the data (i.e., athletes nested within teams), which was not accounted for. Furthermore, the last noted limitation concerned the homogeneity of the sample that focused on young soccer players, mainly males. In order to test the validity of this questionnaire in more heterogeneous samples that include different collective modalities, athletes from different levels and female athletes.

This study suggests that the mentioned questionnaire is a favorable and parsimonious questionnaire to assess empowering and disempowering facets of the motivational climate. However, the development of the questionnaire remains a work in progress. In sum, the findings models suggest that the hierarchical, multidimensional nature of the social coaching environment (as captured in the 34 items comprising the EDMCQ-C) was not fully replicated across groups two and three in a manner that is consistent with the original framework developed by Duda [9].

The second article included in this sub-chapter focuses on the adaptation of the Portuguese version of the EDMCQ-C questionnaire and examines the factorial invariance between Brazilian and Portuguese samples. [34].

The sample consisted of 963 male athletes aged between 11 and 24 years, with 553 Brazilians aged between 11 and 24 and 410 Portuguese aged between 11 and 18 years. The athletes surveyed were regular practitioners of handball, basketball, soccer, futsal, and volleyball, with at least one year of practice in the modality. Brazilians practice between 1 to 14 years and Portuguese between 1 and 13 years.

It is important to highlight that some of the results indicated problems in the construction of the items as reported in the original instrument. Additionally, the present study did not consider different forms of validity (e.g., predictive validity; cross-validity). Another limitation is due to the multilevel nature of the data—other analysis strategies that consider the multilevel characteristics of the data can be applied [6].

The results of the analysis developed throughout the study reflected a structure with 32 items, five first-order factors, and two second-order factors for athletes from both countries. It was also demonstrated the measurement invariances between Portuguese and Brazilian athletes.

In general, the results of the present study evidenced a structure of the multidimensional and hierarchical motivational climate for both Brazilian and Portuguese male athletes who practice team sports, in accordance with the theoretical model proposed by Duda [9] and empirically demonstrated by Appleton et al. [22].

The evaluation of the EDMCQ-C psychometric qualities in different cultural contexts is a crucial line of research as it will allow for comparative investigations to analyze motivational attributes of the coaching climates across countries. This can help to improve the effectiveness of coaching practices and enhance the performance and well-being of athletes globally.

The investigation developed by Sukys et al. [47] evaluated the validity and reliability of the Lithuanian translation of the EDMCQ-C questionnaire in sport participants. The sample included 712 adolescent athletes competing at the national level from various sports.

The research confirms previous results [6,22] and supports a two-factor lower-order model and provides additional evidence for the validity and reliability of the scale. The study suggests that the EDMCQ-C (LT) can be used in future research to examine the impact of coaching on junior athletes' perceptions of motivational context in Lithuanian sports.

The exploratory structural equation modeling results showed that a two-factor model (empowering and disempowering) of EDMCQ-C had an acceptable fit. The reliability analysis found good levels of internal consistency for the empowering and disempowering climate factors and discriminant validity was confirmed by a negative correlation between the two.

The correlation between the empowering and disempowering subscales with values, motivation, and self-esteem showed convergent validity. Additionally, the associations between the climate dimensions and prosocial and antisocial behaviors in sports showed the predictive validity of EDMCQ-C.

The empirical results from this study manifest that the Lithuanian version of the EDMCQ-C questionnaire is an auspicious scale for the evaluation of athletes' insights regarding the coach-created atmosphere.

The study that examined the psychometric properties of the coach-adapted version of the questionnaire EDMCQ using the Bayes' theorization statistical method was developed according to the need to also measure and model within-person and between-person change in coaches' self-perceptions of their own empowering and disempowering coaching behaviors, during their intervention in training and competitions [46].

In fact, previous investigations focused on measuring athletes' perceptions of coaches' behaviors, so the researchers considered it essential to extend this line of research by also evaluating the expected effects on coaches' self-perceptions about their own behaviors [41,46,55]. Consequently, there is a need for psychometrically sound survey instruments to measure and monitor coaches' self-perceptions of their own coaching behaviors [46,56].

This study examines the psychometric properties concerning the adapted version of the EDMCQ questionnaire using coaches' self-perceptions of their own empowering and disempowering coaching behaviors. The participants were 780 youth sport coaches representing five European countries (i.e., England, France, Greece, Norway, and Spain with an average coaching experience of 7.02 years.

Regarding the limitations identified in this study, it is important to highlight that it was based only on the coaches' self-reports, and therefore it is necessary to bear in mind that social desirability may have influenced the results, being therefore necessary in future investigations to psychometrically evaluate this variable.

It should also be considered the scarcity of female coaches in the collected samples, which may be relevant to change to a sample proportionately equivalent to that of male coaches. Another aspect to consider in the future will be the incorporation of items that measure the coaches' instructional behaviors, which could possibly enrich the strengths of the adapted version of the EDMCQ questionnaire.

The results did not support a 34-item five-factor, hierarchical, bifactor, or a two-factor BSEM model across the participating countries. Our data, however, supported a reduced 19-item first-order, two-factor BSEM model. Moreover, the results largely supported approximate metric invariance, whereas approximate scalar invariance was not supported. These present results suggest that the coach-adapted version of the EDMCQ should be considered a work in progress.

In this sense, the indicators of empowering and disempowering motivational climates may vary between the assessments of coaches' perceptions compared to the athletes' awareness of the social and psychological context created by the coach.

In this line of thought and from a methodological point of view, it would be important to take this issue into account in order to allow new adaptations of the items in the adapted version of the EDMCQ, in order to better respond to these potential differences between the coach's and the athlete's view.

According to the four articles presented, it is concluded that the EDMCQ-C can be considered a questionnaire with adequate psychometric qualities to be applied in the context of sport and adapted into different languages.

Additionally, it is a questionnaire that has also demonstrated its usefulness in terms of measuring the coaches' self-perceptions about their practices and behaviors, which in this sense may also pave the way for future research that combines coach and athlete perspectives simultaneity in studies about the multidimensional motivational climate [31], bearing in mind that this is a tool that still needs to be updated in future investigations, so it is a long-term work.

### 4.2. Consequences of the Empowering and Disempowering Motivational Climates

The set of studies were selected with the aim of delving into the influence of the empowering and disempowering psychosocial context and its consequences concern, on the one hand, factors of a psychological and social nature and, on the other, of a biological nature.

In line with the main assumptions in the theorization of motivational climates created by Duda [9], the results of 10 studies presented in Figure 2 show that empowering motivational environments exert beneficial effects for the athletes relative to a variety of psychological and social dimensions. In contrast, the disempowering climate significantly harms the psychological well-being and the quality of the athletes' performance.

| | Empowering Climate | Mediating role | Consequents | Disempowering climate | Mediating role | Consequents |
|---|---|---|---|---|---|---|
| 1 | EC | X | Positively related with health and functioning | DC | X | Negatively related with health and functioning |
| 2 | EC | Positive self-talk | Related with Self-efficacy | DC | Positive self-talk | No related with Self-efficacy |
| 3 | EC | Satisfaction of the Basic psychological needs as a whole | Related with Self-determined motivation | X | X | X |
| 4 | EC | X | Related with Prosocial beahviors | DC | X | Related with Antisocial behaviors |
| 5 | EC | Autonomous motivation | Positively related with Enjoyment | X | X | X |
| 6 | EC | Autonomous motivation and Task-Orientation | Indirectly related with happiness and Enjoyment | DC | Controlled motivation and Ego-Orientation | Directly related with Anxiety, Dejection and Anger |
| 7 | EC | X | No related with Burnout Symptoms in School and Sports | DC | X | Related with Burnout Symptoms in School and Sports |
| 8 | EC | Predicted Autonomous goal motives | Related with Goal Reengagment | DC | Predicted Controlled Goal Motives | Not Related with Goal Reengagment |
| 9 | EC | Need Satisfaction and Self-Determination (PARTIALLY) | Related with the Intention to continue sports participation | DC | Need Twarting and Self-Determination (TOTALLY) | Related with Dropout |
| 10 | EC | X | Not Related with observed or experiences of sexual violence | DC | X | Related with observed or experiences of sexual violence |

**Figure 2.** The psychological effects of the perceptions of an empowering and a disempowering coaching motivational climate.

The studies 1, 4, 7, 10 (Figure 2) concern the direct effect of both motivational climates investigated. It can be verified that the empowering climates positively influence the health and optimal performance of the athletes [6]. They are also associated to pro-social behaviors [57] and can wield a shield function against sexual abuse [34]. By contrast, the disempowering climates show a negative bond with health and optimal functioning of athletes [6], as well as a positive association with anti-social behaviors [57] and burnout [42]—identified in young athletes, both academically and sport wise.

Concerning the indirect impact of both climates, the studies 2, 3, 5, 8, 9 (Figure 2) show the regulatory effects of some variables between both motivational climates and the cognitive and psychological dimension.

In this sense, the empowering climates mediated by positive self-talk will influence the perception of self-efficacy [45]—it relates to the self-determined motivation through the mediation created by the satisfaction of the basic psychological needs [37]. It also supports a positive association with enjoyment mediated by autonomous motivation [39], as well as an indirect positive association with happiness and excitement through the mediating role of autonomous motivation and task orientation [44]. Besides, it also shows a predictive effect when it comes to goal motives, that in turn relates to goal reengagement [48], as well as to a relation with the athletes' intention to persist with the sport practice stimulated by the partial satisfaction of basic psychological and by self-determined motivation [51].

In turn, disempowering climates mediated by the effect of ego orientation and controlled motivation are positively related to anxiety, anger, and dejection [44], also manifesting an association with drop-out, through the total mediating effect of the frustration of basic psychological needs together with ego orientation [51], also showing a predictive effect on controlled goal motives [48] and a link to observed and experienced sexual violence [34].

Additionally, mentioning the only study that focused directly on the consequences for the coach, showing that coaches who gave higher levels of empowering and lower levels of disempowering sport coaching to their athletes at the beginning of the season, also reported higher levels of well-being at the end of the season [41]. In this perspective, the effects of the empowering motivational climates positively impact both athletes and coaches; however, it is necessary to continue researching this line of thought in order to better understand the strength of these effects for the coach.

The biological effects of an empowering climate for young athletes engaging in moderate-to-vigorous-physical-activity (MVPA) could prevent adiposity [40]. Regarding the study developed by Chu et al. [49], the evidence suggested that a disempowering climate had a significant negative direct effect on the athletes' levels of moderate-to-vigorous-physical-activity (MVPA).

### 4.3. Strengths, Limitations, and Future Research

A great asset of this article's study is in its diversification. It allows to broadly examine the various consequences of the motivational climate. However, it shows a lack of consensus among researchers, especially on certain psychological factors that are interconnected with the two types of motivational climates studied.

On the other hand, most studies use mediation models to assess motivational climates and their consequences, which is relevant. Nevertheless, it would be interesting in future investigations to delve deeper into the direct effects of the perception of both motivational coach-created climates and their direct consequences.

It was also not possible to collect enough information on the antecedents of empowering and disempowering motivational climates, which is why it is important to highlight the importance of understanding them for enrichment on this matter vis-à-vis the updating of future research on the motivational climates.

Another aspect to consider, concerns the scarcity of studies found on the coaches' self-perceptions of motivational climates and their psychosocial impacts, which is considered an important limitation and a proposal to be incorporated into new lines of investigation.

It should also be noted that the sample of the various studies was not able to reach female athletes on a large scale, therefore, comparative studies on the influence of climates, motivations, and gender differences are lacking.

Considering the various limitations and subsequent proposals highlighted in the 22 studies collected, it seems relevant to develop concomitant studies that explore, with the various instruments available in the scientific literature, the differences between the coaches' perception of the motivational climate compared to the perception of the motivational climate according to the athlete's perspective.

Future approaches utilizing longitudinal designs are crucial for gaining a deeper understanding of the causal links between the understanding of the empowering and disempowering climates and certain dimensions that remarkably affect the athlete performance, such as fear of failure, anxiety, and the perception of criticism.

Finally, it is essential to point out the importance of investigating the impact of the empowering and disempowering motivational climates created by the coach, together with the parental support linking with the key dimensions that restrict the performance of the athletes', bearing in mind that only one corresponding study was found.

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## 5. Conclusions

The strength of the impact of the motivational atmosphere emerges when the climate dimensions emphasized in AGT and SDT are considered together [6]. Thus, the principal purpose behind the development of the EDMCQ-C questionnaire was to create a brief, multidimensional scale that measures athletes' perceptions of coaching behaviors comprising overarching "empowering" and "disempowering" motivational climates.

In this sense, this study confirms that the EDMCQ-C questionnaire is, par excellence, the most used and with the necessary psychometric qualities when it comes to assessing the empowering and disempowering motivational climates and their various impacts.

In general, the compiled studies reinforce the principal aspects of the methodological conceptualization of the multidimensional motivation climate created by Duda et al. [9] in the sport context. It reveals that the motivational climate generates empowering or disempowering consequences on the athletes' global levels of well-being.

A coaching style that prioritizes autonomy and a supportive social climate can lead to positive outcomes for athletes, while an ego-driven, controlling style can result in negative consequences including a self-defeating achievement pattern and dysfunctional emotional responses.

Future research could focus on different elements to enhance understanding of motivational climates, for example, empirical evidence that could be added to the existing nomological framework, considering antecedents, development, direct and indirect effects, moderating effects, aggregated effects, and qualitative studies. We are calling for renewed efforts regarding gathering information about contexts and more details about the developing process. In this article, we suggested that future research should focus on the culture-specific aspects of empowering climates and the negative effects of disempowering climates.

Prospective studies will ideally highlight the relations between the social dimensions of the empowering and disempowering motivational climate with personal dimensions as passion, persistence, and psychological flexibility, as well as emotional intelligence.

It would also be important to consider studies of a qualitative nature that evaluate the individual perception of the empowerment felt by the athlete, as well as the processes of building empowerment in a team, depending on the different levels of competition and sport disciplines.

This would provide a better understanding of the nature of empowerment in the sport context and subsequently promote a deeper understanding of the impact of the empowering and disempowering climates according to individual, circumstantial, and cultural variations.

The list is not meant to be exhaustive. However, we hope this contribution inserts a valuable piece into the whole empowering—disempowering puzzle.

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