Reconceptualizing Motivational Climate in Physical Education and Sport Coaching: An Interdisciplinary Perspective — Source link [↗]

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1   **Reconceptualising Motivational Climate in Physical Education and Sport Coaching: An**

2   **Interdisciplinary Perspective**

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5

6   **Abstract**

7   The purpose of this article is to re-conceptualise the phenomenon of motivational climate in Physical

8   Education and sport coaching as a concept that is not purely psychological in nature, but also highly

9   dependent upon pedagogical and sociological theories. In doing so, an interdisciplinary perspective

10   is promoted where the three aforementioned disciplines combine and intersect in order to enrich

11   teachers' and coaches' understanding of motivational climate. The ultimate aim is to assist

12   practitioners in fostering an effective and stimulating learning environment. The pre-existing

13   TARGET acronym (task, authority, recognition, grouping, evaluation and time) (Epstein, 1988) is used

14   to structure the paper. These TARGET structures are further developed with links to relevant

15   pedagogical and sociological theory to enrich them. Further, a strong emphasis is placed on

16   'relationships', which has not previously featured in the TARGET literature. It is anticipated that

17   inter-disciplinary research on motivational climate will emerge from the ideas presented.

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19   **Key words**: Motivational climate, interdisciplinary, TARGET

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Introduction

Over the last thirty years or more, the perceived motivational climate created by Physical Education (PE) teachers and sport coaches has been predominantly considered from a psychological perspective, with a particular focus on Achievement Goal Theory (AGT) (Ames, 1992a; Nicholls, 1984; Roberts, 1992) and more recently, Self Determination Theory (Deci & Ryan, 1985; Tessiera, Smith, Tzioumakisc, Quested, Sarrazina, Papaioannouc, Digelidis, & Duda, J., 2013). However, this paper argues that many aspects of the motivational climate fostered by PE teachers and sport coaches are pedagogical and sociological in nature and that focusing predominantly on the psychological domain limits the theoretical understanding of motivational climate and, perhaps more importantly, the practical strategies that PE teachers and sport coaches can adopt to foster a positive learning environment. The purpose of this article, therefore, is to reconceptualise the phenomenon of motivational climate in PE and sport coaching from an interdisciplinary perspective and to demonstrate how the pedagogical and sociological aspects of teaching and coaching environments are interrelated with the psychological perceptions of the participants (See Fig 1.). To achieve this, firstly, the paper briefly reviews the existing psychological theories associated with motivational climate, namely, AGT and SDT. Secondly, the paper introduces Epstein's (1988) pedagogical structures (Task, Authority, Recognition, Grouping, Evaluation and Time – TARGET) that have been found to enhance the motivational climate in educational and sport settings. Thirdly, the various inter-related psychological, pedagogical and sociological concepts and theories are identified for each of these TARGET structures (See Table 1.). Finally, the paper proposes new theoretical perspectives and inter-disciplinary research directions for future consideration.

Existing psychological perspectives of Motivational Climate

46   Beginning with the most dominant theoretical conception of motivational climate, the

47   psychological perspective initially focused on AGT (Nicholls, 1984) and the different perceptions of

48   the motivational climate as either mastery (self-referenced) or ego (normative) involving (Ames,

49   1992a). It was theorised that these two different perceptions of the motivational climate were

50   strongly influenced by the teacher or coach's behaviours in combination with an individual's goal

51   orientation, or predispositions to be self-referenced (task oriented) or comparative with others (ego

52   oriented) (Ames, 1992a; Duda, & Balaguer, 2007; Roberts, 2001). More recently, ego orientations

53   were further divided into approach and avoidance goals (Elliott & Church, 1997; Elliott & MacGregor,

54   2001) but the basic theoretical concept was that an individual's goal orientations (predispositions to

55   be task/mastery or ego focused) in combination with how they perceived the teacher/coach

56   behaviours, significantly impacted on their perceptions of the motivational climate. In simple terms,

57   if the teacher/coach emphasised self-referenced improvement, individual progress, effort and

58   persistence then it was more likely that the climate would be perceived as mastery involving by the

59   participants. If, on the other hand, the climate encouraged normative comparisons between

60   participants as the criteria for success, then there was a stronger likelihood that an ego involving

61   climate would be perceived by the participants (Ames, 1992a; Duda, & Balaguer, 2007; Roberts,

62   2001). These motivational responses however, were mediated by the participants' dispositional

63   levels of task and ego orientations (Roberts, 2001). Perceptions of a mastery climate were shown to

64   be associated with positive motivational responses such as beliefs that success was dependent on

65   effort, high levels of satisfaction and enjoyment, choice of challenging tasks, intrinsic motivation and

66   low levels of boredom (Carpenter & Morgan, 1999; Goudas & Biddle, 1994; Treasure, 1997).

67   Perceptions of an ego climate, however, were related to a belief that success was dependent on

68   ability, a choice of less challenging tasks, higher levels of boredom, lower levels of enjoyment and

69   satisfaction, and a greater likelihood of cheating and unethical behaviours (due to a win at all costs

70   attitude) (Carpenter & Morgan, 1999; Kavussanu & Roberts, 2001; Ommundsen & Roberts, 1999;

71   Treasure, 1997). Whilst it is acknowledged that AGT and the mastery and ego involving aspects of

72   the practical environment are important areas to consider in evaluating and manipulating the

73   motivational climate, this article argues that they are certainly not the only considerations and that a

74   number of other interrelated, psychological, pedagogical and sociological aspects of the motivational

75   environment fostered by the practitioner should also be considered.

76   **TARGET structures**

77   The work of Ames (1992a; 1992b) in particular, identified the teacher/coach behaviours that

78   influenced the motivational climate. Emerging out of Ames' earlier educational research (Ames,

79   1992b; Ames & Ames, 1984; Ames & Archer, 1988), which focused on individualised, competitive

80   and cooperative rewards structures, these teaching behaviours were represented in the literature by

81   the acronym TARGET which referred to the task, authority, recognition, grouping, evaluation and

82   time structures of a teaching situation (Ames, 1992a; Epstein, 1988). Briefly, Ames (1992a; 1992b)

83   used Epstein's (1988) original TARGET structures to argue that a mastery motivational climate was

84   fostered by self-referenced, differentiated and varied tasks, a sense of individual autonomy, the

85   recognition of effort and individual progress, homogenous and cooperative groups, individualised

86   formative evaluation/assessment and flexible time to learn. Previous intervention studies in PE and

87   sport coaching demonstrated that it was possible to manipulate the TARGET structures to be

88   mastery involving. This resulted in more positive motivational responses for the participants, such as

89   higher levels of perceived competence, satisfaction and enjoyment, less boredom, a stronger

90   preference for engaging in more challenging tasks, higher mastery goal orientations and a stronger

91   belief that success was the result of effort. In contrast, when the TARGET structures were more ego-

92   involving, participants' tended to be more ego oriented, had lower levels of perceived ability,

93   satisfaction and enjoyment, were less interested in achievement tasks and believed success was the

94   result of ability and deception (Solmon, 1996; Morgan & Carpenter, 2002; Digelidis, Papaioannou,

95   Laparidis, & Christodoulidis, 2004; Hassan & Morgan, 2015).

96   Although it has not been considered in the sport and exercise psychology research to date,

97   this paper suggests that the TARGET structures (Ames, 1992b) are closely associated with the innate

98   needs that Self Determination Theory (Deci & Ryan, 1985) is built upon, i.e. autonomy, competence

99   and relatedness. Autonomy is part of the authority structure of TARGET and emphasises the need

100   for teachers/coaches to give ownership of activities to the participants in order to maximise their

101   motivation. Competence is closely associated with the task, recognition and evaluation structures of

102   TARGET where self-referenced goals, differentiated tasks and individualised recognition and

103   evaluation based on effort and progress is more likely to motivate and be inclusive of all individuals.

104   Finally, relatedness is the need to feel related to others, which is a key facet of cooperative grouping

105   in TARGET. This paper argues , therefore, that TARGET is a broader framework to utilise in

106   considering the psychological aspects of motivational climate than SDT and autonomy supportive

107   environments (Tessiera, et al., 2013), that seemingly only cover a relatively small part of the

108   pedagogical structures of the TARGET framework.

109   Whilst TARGET has been traditionally associated with AGT and adopted as part of this

110   psychological theory (Ames, 1992a), in its original form it was developed as a pedagogical framework

111   from educational research to assist schools in developing more effective students and schools

112   (Epstein, 1988). Furthermore, a key premise of this paper is that the psychological perceptions of the

113   motivational climate, by participants in PE and sport coaching environments, is heavily influenced by

114   their social relationships with the teacher/coach and their peers. This article, therefore, is structured

115   around the different aspects of TARGET and will aim to demonstrate the pedagogical and

116   sociological links, which have not been considered in the motivational climate theory or research to

117   date. These interdisciplinary connections have emerged over a period of twenty years of research

118   and teaching by the author and this paper is an attempt to make sense of these links in a way that

119   will help to facilitate practitioners in PE and sport coaching to foster a more positive motivational

120   climate for their participants. It is not claimed that the theories covered in this article are all inclusive

121   of everything that potentially influences the motivational environment in PE and sport settings,

122   rather, this is an attempt by the author to demonstrate the interdisciplinary relationship between

123   key theories and concepts that he has been exposed to over a period of more than twenty years as a

124   teacher, coach, teacher trainer, coach educator and pedagogic researcher.

125   **Task**

126   Starting with the task structure of TARGET, three aspects were considered by Epstein (1988)

127   and Ames (1992a) as instrumental in influencing the motivational climate, namely task goals,

128   differentiation of tasks, and variety, novelty and creativity of the task design. There is a significant

129   body of knowledge around goal setting within the discipline of sport psychology (e.g. Weinberg &

130   Gould, 2003), and guiding principles for practical application which can be developed and

131   implemented in teaching and coaching settings (Hardy, Jones, & Gould, 1996; Locke & Latham,

132   1990). It is beyond the scope of this paper to go into the goal setting literature in any detail but the

133   primary focus, from a mastery motivational climate perspective (Ames, 1992a), is that individuals

134   should be involved in setting their own self-referenced and self-determined goals, focusing on

135   improvement and personal progress (i.e. process goals, rather than outcome goals, (Kingston &

136   Hardy, 1997)). However, there is an assumption here that learners have sufficient knowledge and

137   experience to set appropriate goals at the correct level and to challenge their own learning

138   effectively. In reality, this process is complex and more likely to be successful when the learning is

139   assisted by a more knowledgeable other, i.e., the teacher or coach (Vygotsky, 1978). This

140   emphasises the need for shared goal setting between practitioner and coach (Jones & Standage,

141   2006) and setting appropriate learning tasks for a range of different abilities.

142   The second facet of the task structure, differentiation, lends itself more to a pedagogical

143   emphasis than a psychological one. It has close links with the educational concept of inclusion.

144   which values the achievement of everyone equally and promotes the notion that all participants can

145   achieve success irrespective of ability and personal circumstances (Stidder & Hayes, 2013). According

146   to Ames (1992a), in order to foster a mastery climate and provide equal opportunity for all

147   participants to achieve success in PE and sport coaching environments, the tasks set by practitioners

148   should cater for a range of abilities and be set at different levels of difficulty. This concept can be

149   considered in the planning process by using terminology such as 'working towards', 'working at', and

150   'working beyond' a particular level of a task. If the coach/teacher has planned effectively with

151   previous knowledge of the ability of the group, the majority of a mixed ability group of participants

152   will most likely be 'working at' the planned level of difficulty of a particular task. However, there will

153   be some participants who will be 'working towards' the task by engaging in an activity that is less

154   challenging than the majority of the class. Similarly, others will be participating in an activity that is

155   'beyond' the level of challenge of the majority of the class, in order to maximise their learning. Such

156   a task structure is consistent with an Inclusion style of teaching in Mosston and Ashworth's teaching

157   styles Spectrum (2002). This style allows the learners to select the level of difficulty of a task at an

158   appropriate level for their individual ability and learning. However, research has shown that some

159   learners selected inappropriately in order to protect their self-esteem in such situations (Goldberger

160   & Gerney, 1986). One key consideration, therefore, is to design tasks in such a way that the

161   different levels of ability are not overtly evident, or emphasised by the practitioner. In such learning

162   environments, the participants' confidence and perceived ability levels are protected and not

163   negatively affected (Ames, 1992a). Whilst it may be evident that the task is different for some

164   individuals or groups, it is important that all participants are made to feel that they are considered

165   equal and are achieving positively at their own level of ability. The practitioner is instrumental in

166   setting this learning climate, which links well to a 'caring' (Nodding, 2005) and 'nurturing' (Almond &

167   Whitehead, 2012a) pedagogical agenda. In such a learning environment, the emotions and personal

168   development of the individual participants are considered paramount. Such pedagogical skills are

169   seen as crucial in developing physical literacy, defined as "a disposition acquired by human

170   individuals encompassing the motivation, confidence, physical competence, knowledge and

171   understanding that establishes purposeful physical pursuits as an integral part of their lifestyle."

172   (Almond & Whitehead, 2012b, p68).

173   The third and final component of the task structure of TARGET is the variety, novelty and

174 creativity of the tasks (Ames, 1992a; Epstein, 1988). Whilst the impact of varied and novel tasks is

175 fairly obvious in relation to promoting interest and relieving boredom, the principles of skill

176 acquisition and the role that repetitive practice plays in this process should not be neglected

177 (McMorris, 2015). Mc Morris (2015) draws on the principles of skill acquisition including strategies

178 such a whole and part learning, massed, spaced and variable practice, to emphasise the need for

179 variety and perceived relevance of tasks to alleviate boredom and motivate learners. Cecchini,

180 Fernando Riez, and Mendez-Gimenez(2014) promoted the motivational and learning effects of

181 problem based tasks within the TARGET framework in order to engage and challenge the learners.

182 This suggests that variety and novelty of tasks are important aspects in motivating individuals.

183 However, according to Mc Morris (2015), repetition is also important for learning and should be an

184 important part of the process. In order to foster a motivational climate that also promotes effective

185 learning, therefore, a balance between task novelty and repetition is suggested. Future research

186 should investigate this balance in developing effective learners and enhancing the motivational

187 climate.

188 **Authority**

189   There are numerous interconnecting psychological, pedagogical and sociological theories

190 that relate specifically to the authority structure of TARGET. These include self-determination theory

191 (Deci & Ryan, 1985), empowerment (Kidman, 2005), orchestration (Jones et al., 2013), scaffolding

192 and the zone of proximal development (Vygotsky, 1987), the teaching styles Spectrum (Mosston &

193 Ashworth, 2002) and teaching models such as Teaching Games for Understanding (TGfU)(Thorpe,

194 Bunker & Almond, 1986) and Sport Education (Seidentop, 1994). The authority structure in a

195 mastery climate promotes active learning by allowing shared responsibility for decision making,

196 active thinking, questioning, learner choice, self-direction, and leadership (Epstein, 1988). As already

197 identified, SDT is built on the premise of autonomy being an innate human need (Deci & Ryan,

198 1985). On this basis, empowering individuals by providing them with choices and a sense of

199 ownership over the tasks they are participating in is a key strategy in teaching/coaching situations. In

200 the sport coaching context, empowerment involves athletes being actively engaged in shaping and

201 directing what happens in their sporting life (Kidman, 2005). This approach is believed by some to

202 enable athletes to take greater ownership and responsibility for their sporting performances,

203 resulting in greater tactical and technical understanding and higher levels of commitment (Kidman,

204 2001).

205   Whilst the benefits of an empowering and autonomy supportive environments are well

206 documented, researchers have also recommended a more in-depth examination of the practices,

207 philosophies and ideologies regarding its implementation (Jones, 2007; Nelson, Cushion, Potrac &

208 Groom, 2014). Indeed, some have argued that empowerment is more of an illusion created by the

209 coach to 'orchestrate' the environment, and that shared leadership is more of a realistic portrayal of

210 the coach-athlete relationship (Jones, Bailey & Thompson, 2013; Jones & Standage, 2006; Santos,

211 Jones & Mesquita, 2013). This is consistent with the approach taken by elite 'All Blacks' rugby

212 coaches, Graham Henry and Wayne Smith in the period between 2004 to 2011, culminating in

213 winning the world cup in 2011. This was a philosophy to provide players with ownership, but

214 importantly, it was a dual management approach between both players and coaches, rather than

215 complete player autonomy. In the words of one of the coaches, Wayne Smith:

216   "We went away from making any unilateral decisions as [the] coaching and management

217   team, and [instead we] involved the leadership group in everything… [in] all areas of our

218   campaigns." (Hodge, Henry & Smith, 2014, p65.).

219   Orchestration is a metaphor used to identify what good practitioners do within dynamic and

220 complex contexts, such a coaching and teaching (Jones et al., 2013; Jones & Wallace, 2006). Jones et

221 al., (2013) argued that to orchestrate a situation effectively the coach/teacher needs to notice what

222 is going on and to manage the micro-politics between individuals and groups that may occur when

223 greater autonomy is given to them. A further concept discussed by Jones et al. (2013), is social irony

224   (Hoyle & Wallace, 2008). In explaining this concept, Jones et al., gave an example of providing

225   athletes with more authority as weakening coach control over decisions for which he/she was held

226   accountable. It could be argued, therefore, that a coach who cares about the learning, health and

227   safety, and personal, social and emotional development of his/her athletes, has to maintain

228   authority on many occasions in order to create the most effective learning environment. A

229   perceptive and caring practitioner wouldn't, for example, expose a less competent performer, who

230   lacks self-confidence and leadership qualities and has a low social status within the group, to a team

231   captaining or officiating position within a fully competitive game environment without providing a

232   high level of support and control of the environment. This appears reminiscent of emotionally

233   intelligent coaching (Chan & Mallett, 2011), which emphasises the importance of the interpersonal

234   connections between leader and followers. The authority structure is, therefore, rife with intricacies

235   and difficulties in PE and sporting environments and it should not simply be a case of providing all

236   learners with maximum autonomy at all times. However, there is strong evidence that an autonomy

237   supportive environment is worth striving for in fostering a positive motivational climate, provided

238   that it is well 'scaffolded' and supported by the coach/teacher.

239   Santos, Jones and Mesquita (2013) identified the notion of 'scaffolding' learning as an

240   essential part of orchestration. Scaffolding has traditionally been associated with Vygotsky's (1987)

241   social constructivist theory and is a metaphor for the process of assisting learning within a 'zone of

242   proximal development'; the gap between tasks than can be completed by the learners without

243   assistance and tasks that require coach/teacher assistance to be successfully achieved. Setting tasks

244   within an individual's zone of proximal development is, therefore, an important part of developing

245   an effective learning climate. Giving learners' autonomy, without scaffolding the learning process,

246   would, according to Vygotsky (1987), not enable effective learning to take place. Encouraging an

247   appropriate amount of learner autonomy, whilst still providing a 'scaffold' is, therefore, an essential

248   aspect of social constructivist learning.

249   Mosston and Ashworth's (2002) teaching styles Spectrum is based on who (teacher or

250   student) makes the decisions in the pre-impact (planning), impact (delivery) and post-impact

251   (evaluation) phases of a teaching/coaching episode. There are two clusters of teaching styles; the

252   reproductive cluster where the learners reproduce information presented by the teacher/coach, and

253   the productive cluster, where the learners are more active in producing their own outcomes. Clearly,

254   the productive cluster promotes greater learner authority/autonomy and is more mastery involving.

255   Research by Morgan, Kingston and Sproule (2005) showed that more pupil-centred teaching styles

256   including guided discovery and reciprocal, resulted in more mastery focused teaching behaviours

257   and greater pupil motivation than the more traditional teacher centred command/practice style of

258   teaching. However, Mosston and Ashworth (2002) argued that no teaching style is superior to any

259   other (non-versus perspective) and different learning outcomes and teaching situations lend

260   themselves best to different teaching styles. Therefore, according to the 'non versus' perspective,

261   more pupil centred teaching styles may not necessarily be the best approach in certain

262   teaching/coaching situations. .

263   Two further pedagogical models that lend themselves well to an empowering and autonomy

264   supportive environment are TGfU (Thorpe, Bunker & Almond, 1986) and Sport Education (Seidentop,

265   1994). It is beyond the scope of this paper to consider these two models in any great depth but both

266   of them are built on social constructivist learning principles that focus on discovery based learning

267   and group interaction. Both models promote student/athlete authority within the sessions by

268   offering them opportunities to make choices, learn how to find solutions to problems and develop

269   higher levels of motivation (Kidman, 2005).

270   **Recognition**

271   Noticing (Mason, 2002), nurturing (Almond & Whitehead, 2012a) and positive feedback are

272   all closely associated with the recognition and rewards element of TARGET, which emphasises equal

273   opportunity and distribution of rewards based on individual progress, effort and improvement.

274 According to Mason (2002, p. xi), pedagogues need to 'increase the range and decrease the grain

275 size' of what they notice to develop their professional practice. The ability to see what is going on in

276 the practical context is, therefore, a precursor to good pedagogy and requires highly developed

277 observational skills. From a motivational perspective, Killingbeck and Whitehead (2015) emphasised

278 the need to view learners as individuals when observing them, and to realise that they are all at

279 different stages of their personal journey, with different levels of confidence and self-esteem.

280 Pedagogically, therefore, an appreciation of individual differences and particular learning needs,

281 should, play a part in observation and recognition (Killingbeck & Whitehead, 2015). Killingbeck and

282 Whitehead (2015) also warned of the dangers of personal beliefs and frames of reference when

283 observing others, emphasising the need for pedagogues to consider the motives of the learners

284 rather than their own, when noticing learners. Noticing improvement, effort, confidence and social

285 skills (or a lack of) requires a different level of observational skills than simply noticing the most able

286 performers. The Sport Education model (Seidentop, 1994) allows for the recognition and rewards of

287 such personal and social skills and focuses the practitioner on noticing them.

288   From a pedagogical perspective, Almond and Whitehead (2012a) advocated a nurturing and

289 caring community in PE and suggested that individuals only learn to care about others and act

290 responsibly if the environment supports this form of concerned response. They suggested that, in

291 order to foster a caring and nurturing climate, teachers should value all individuals equally and

292 create a caring and considerate atmosphere that is sensitive to individual differences, needs and

293 interests. Further, building productive working relationships is a key aspect of the pedagogues role

294 and an essential element of this is giving the learners a voice and allowing them to take

295 responsibility over their own learning (Almond & Whitehead, 2012a). Strategies such as self and peer

296 evaluation lend themselves very effectively to this type of motivational environment, both of which

297 will be discussed further in the evaluation structure of TARGET to follow. Providing pupils with a

298 voice enables the practitioner to recognise the learners' perceptions of their own progress and to

299 gauge their effort, engagement and desire to learn. Private rather than public recognition can also

300   help to develop a caring and nurturing environment and to foster positive relationships with

301   learners. However, there are some issues around the practicalities of providing individual private

302   feedback in a PE and sport coaching setting (Hassan & Morgan, 2105). Given the importance of

303   striking up a rapport and developing positive relationships with the learners, this paper argues that

304   the R in TARGET should also represent 'relationships'. To date, this has been a missing element of

305   the TARGET acronym that is considered to be a crucial part of motivational climate.

306   In order to foster an effective motivational climate, recognition in the form of feedback to

307   the learners from the coach/teacher should be intelligible and prescriptive, informing them of what

308   they need to do to improve (McMorris, 2015). The skill acquisition literature discusses the feedback

309   process in detail, covering aspects such as the timing, frequency and precision of feedback

310   (McMorris, 2015). The overriding message is that feedback should be given sensitively on an

311   individual basis, take previous learning into consideration and focus on individual improvement and

312   progress. Such an approach combines the pedagogical, psychological and sociological aspects of

313   teaching/coaching. Positive reinforcement on a one to one basis that values progress, effort and

314   persistence, and is both encouraging and specific, is likely to foster a positive motivational climate.

315   However, it is important to remember not to over use praise, or it could become meaningless to the

316   learners (Whitehouse, Barber & Jones, 2015).

317   **Grouping**

318   From a sociological and pedagogical perspective, grouping learners into mixed ability groups

319   (Ames, 1992a) is a contentious area of TARGET. AGT (Nicholls, 1984, 1989) perspective, argues that

320   homogenous ability based groups will result in perceptions of ability differences (ego perceptions)

321   between groups and potentially have a negative impact on the self-esteem, confidence and

322   perceived ability of those in the lower ability groups. However, unless a mature and highly

323   cooperative environment is fostered by the practitioner, it is quite possible that mixed ability groups

324   could result in more overt ability comparisons; as the less able and skilled participants will be unable

325   to perform at the level of the more able, which could emphasise ability differences more than

326   working with others of a similar ability level to themselves. This is supported by Hassan (2011), who

327   found that sport coaches believed that the confidence of less able athletes can be negatively

328   affected when they are grouped with more able performer. Further, more able athletes can become

329   frustrated in such situations as they are not being challenged at their optimal level (Hassan, 2011).

330   However, if a climate of cooperation and teamwork can be effectively developed and nurtured,

331   heterogeneous grouping arrangements can result in a positive motivational environment where all

332   group members can learn effectively. This sense of belonging is consistent with the need for

333   relatedness (Deci & Ryan, 1985) and team affiliation, which is a key aspect of the Sport Education

334   Model of PE (Seidentop, 1994). In this model, pupils are grouped into teams early in the unit and

335   participate in these teams throughout the whole season (usually over a half or full school term). An

336   important part of the teachers' role in this situation is to facilitate cooperative teamwork and to

337   ensure inclusion and equal opportunity for all. Recognition and rewards are given for aspects such as

338   good leadership, teamwork and fair play, thus developing a sense of community and cooperation

339   which are key elements of a positive motivational climate.

340   Positive interpersonal relationships are the key to an effective grouping structure and also

341   an important element of the social learning domain in Mosston and Ashworth's (2002) Spectrum of

342   teaching styles. Peer or reciprocal teaching, where one pupil acts as the teacher and another as the

343   learner, is a good example of a Spectrum teaching style that aims to promote peer interaction and

344   social development. The interactions between the 'teacher' and 'learner' are crucial to the success

345   of this style. Consequently, part of the teacher's role within such teaching episodes is to ensure that

346   the feedback given by the pupil adopting the teaching role, is both positive and sensitive to the

347   needs of the learner. The type of grouping arrangement within peer teaching or small group work

348   allows for more individual feedback for the learners. However, it is essential that the feedback given

349   is both accurate and encouraging in order to create a positive motivational climate (Epstein, 1989).

350   Allowing pupils to group themselves into friendships pairings is often the most beneficial in terms of

351   developing a positive and caring culture but this raises potential issues and difficulties. Indeed, the

352   grouping of learners into self-selected or friendship groups, versus teacher/coach selected non-

353   friendship groups is an interesting and challenging area. Learners often prefer to participate in

354   friendship groups, but this may not be the most effective arrangement for learning and

355   development. Grouping them into non-friendship groups is an opportunity to teach the importance

356   of cooperative group work and developing new friendships, as well as the need in life to work

357   productively with others who are not your friends, or even those you do not like! However, this

358   requires a level of maturity that can sometimes outweigh the need for a more positive working

359   atmosphere. Varying the grouping arrangements and criteria for forming groups is, therefore, a key

360   strategy in fostering a positive learning environment (Ames, 1992a).

361   **Evaluation**

362   Progressing to the Evaluation structure of the TARGET framework, the pedagogical principles

363   that relate best to developing a positive motivational climate are, in the authors opinion: assessment

364   for learning (AfL), formative assessment, ipsative assessment and social exchange. Assessment or

365   evaluation is an integral part of learning and teaching and is a key element in creating an effective

366   motivational climate (Ames, 1992a). Recognising where the learners are, communicating their

367   strengths and areas for development and identifying steps required to further improve are all

368   essential elements of effective evaluation (Newton & Bowler, 2015). Formative assessment is

369   designed to assist the learners in progressing their own learning, whereas, summative assessment is

370   concerned with prior achievement and usually given at the end of a session or block of sessions.

371   Formative assessment looks forward, and is also known as AfL, whilst summative assessment looks

372   back and is also referred to as assessment of learning (Newton & Bowler, 2015). From a mastery

373   perspective (Epstein, 1988; Ames, 1992a), AfL is what pedagogues should aim for in order to

374   optimise the motivational climate. Feedback has been found to play a crucial role in the evaluation

375   process and in promoting AfL (Assessment Reform Group, 1999). According to Ames (1992a) and

376   Epstein (1988) it should be individualised and focused on effort and progress, thus providing equal

377   opportunity for it to be received. Further, practitioners should aim to distribute feedback equitably

378   amongst the participants, to help motivate all participants rather than a select few (Ames, 1992a),

379   whilst also acknowledging that some learners may need more feedback than others. A further

380   consideration for practitioners is the manner in which they provide feedback. This involves not only

381   'what' is said to the learners, but 'how' it is said including the accompanying body language, eye

382   contact and facial expressions, in addition to the opportunity for learners to question the feedback

383   and clarify any misconceptions. Coaches' positivity was identified by Keegan et al. (2009) as having a

384   significant motivational effect on young athletes and should be a key consideration, even when

385   providing corrective feedback, in order to promote a positive motivational climate.

386   Ipsative assessment compares an individuals' level of achievement with their own previous

387   attainment and is totally consistent with the principles of a mastery motivational environment.

388   Comparing performance levels with those of others (ie ego involving evaluation) is known as norm-

389   referenced assessment, whereas criterion referenced assessment measures performance against

390   predetermined criteria (Newton & Bowler, 2015). All of these types of evaluation have a place in PE

391   and sport coaching, but the AGT literature (Nicholls, 1984; 1989; Ames, 1992a), predominantly

392   emerging from a Western perspective, contends that ipsative (mastery involving) assessment is most

393   likely to motivate the majority of participants in achievement situations such as PE and sport.

394   Evaluation that emphasises normative comparisons (norm referenced assessment) can impair self-

395   worth, intrinsic interest and perceived ability (Nicholls, 1989) and should, therefore, be used

396   sparingly. However, there are times in performance sport environments when some participants are

397   more highly motivated by comparative situations, when they have the opportunity to compete

398   against others (Hassan, 2011). This is particularly the case for individuals with high levels of

399   perceived ability (Roberts, 1992).. However, there are times in all performers' careers when their

400   confidence and perceived ability is put under strain and in such circumstances, emphasising

401   comparative standards may have a negative impact on their motivation.

402   The use of questioning, along with self and peer evaluation are all important strategies for

403   evaluating learning and in fostering a positive motivational environment (Newton & Bowler, 2015).

404   Effective questioning technique is essential in evaluating learning, knowledge and understanding and

405   is an important aspect of constructivist theory and 'scaffolding' learning (Vygotsky, 1987). The use of

406   more open ended questions promotes higher order thinking skills such as application, analysis,

407   synthesis and evaluation whereas, more closed questions promote lower order skills such as recall

408   (Bloom et al, 1956). PE research suggested that teachers' questions were more fact-seeking in

409   nature and seldom required the learners to think beyond the simple recall of information (McNeill et

410   al., 2008). Similarly, recent studies in sport coaching have demonstrated that coaches ask more

411   convergent than divergent questions (Harvey et al., 2013). Clearly, this is an area that needs to be

412   focused upon and improved in order to foster a more positive learning environment. Using more

413   divergent discovery and problem solving teaching styles (Mosston & Ashworth, 2002) would seem to

414   be a positive direction to move towards in developing more effective questioning strategies.

415   Questioning can also help to develop mutual respect, provided the responses are valued and not

416   dismissed.

417   Peer evaluation requires careful planning and involves one learner observing and providing

418   constructive feedback to another. The use of criteria sheets can aid this process and focus the

419   observer on the key points for evaluation and improvement. However, it is imperative that the

420   observer understands the criteria that they are feeding back on. It is the responsibility of the

421   practitioner to ensure that this is the case and that the feedback provided by the observer is

422   constructive and delivered in a sensitive manner to the needs of the learner. The process of peer

423   evaluation also has a positive effect on the learning of the observer, as it deepens their

424   understanding of the task. In such teaching/coaching episodes, the feedback given by the class

425   teacher or coach should not be on the performance of the learner, but on the accuracy and quality

426   of the feedback by the observer (Mosston & Ashworth, 2002). Self-evaluation is more difficult in

427   many ways, as performers cannot see themselves, unless they use a video camera. They can,

428 however, feel the movement and see the outcome of their performance which allows them to

429 reflect upon and improve their learning.

430 **Time**

431   The final TARGET structure is time which has links to the pedagogical concept of 'time on

432 task' or 'active learning time' in PE (Metzler, 1989). This has been defined as the time learners are

433 engaged in motor and other learning activities in order to achieve the learning outcomes (Metzler,

434 1989). Time to learn is, therefore, more than just time to be physically active and can involve

435 cognitive and social learning activities which are not physical in nature. From an inclusive learning

436 perspective, the key concept is to allow flexible learning time to accommodate the variations in the

437 time needed for learning by individuals with different prerequisite skills (Ames, 1992a; Epstein,

438 1988). If this is neglected, practitioners deny differences in learning rates and reduce the number of

439 effective learners (Epstein, 1988).

440 **Relationships**

441   Although it is an aspect that has already been touched upon in the authority, recognition

442 and evaluation structures of TARGET, the relationship between practitioner and learners is an area

443 that is mostly neglected in TARGET, but one that is vitally important in fostering an effective

444 motivational climate (Mageau & Vallerand, 2003). In an attempt to identify the significance of

445 relationships, the following section will further argue for the importance of positivity, caring, respect

446 and the use of humour in developing an effective motivational climate. Beginning with positivity,

447 Keegan et al. (2009) found that this was the one consistent factor identified by youth sports

448 participants as having a positive effect on their motivation. In a similar vein, Whitehouse et al. (2015)

449 discussed the importance of energy and enthusiasm and of being alert, lively and encouraging in

450 motivating learners. They argued that a lethargic teacher/coach is unlikely to create a dynamic

451 motivational climate and strategies such as voice intonation, positive body language, gestures, facial

452   expressions and listening skills all play a key part in creating a positive motivational environment

453   (Whitehouse et al., 2015). This is compatible with the dimension of inspirational leadership in

454   transformation leadership theory (Bass & Riggio, 2006).

455   According to Bass and Riggio (2006), inspirational leadership involves promoting optimism

456   and enthusiasm, which inspires and motivates others to exceed expectations and realize a

457   collectively shared vision of excellence. The other components of transformational leadership that

458   have relevance in fostering a positive motivational climate are: idealized influence, intellectual

459   stimulation and individualized consideration. Idealized influence occurs when leaders serve as role

460   models and demonstrate high standards of ethical and moral excellence. According to Bass and

461   Riggio (2006), this is likely to engender admiration, trust, and respect from others whilst inspiring

462   them to maximize their personal and collective potential. Intellectual stimulation takes place when

463   leaders promote more flexible and creative thinking patterns by prompting individuals to think

464   independently, challenge commonly held assumptions, and view problems from different

465   perspectives. Finally, consistent with the concept of inclusion and differentiation discussed earlier in

466   this article, individualized consideration occurs when leaders provide challenges and empathetic,

467   supportive feedback that is tailored for each individual, and when they recognize and celebrate the

468   personal contributions that each individual makes to the group (Bass & Riggio, 2006).

469   Transformational leadership is a critical feature of transformational teaching that can maximize

470   students' potential for academic success, and significantly enhance students' attitudes, values,

471   beliefs, and skills (Slavich & Zimbardo, 2012). Slavich and Zimbardo define transformational teaching

472   as 'the expressed or unexpressed goal to increase students' mastery of key course concepts while

473   transforming their learning-related attitudes, values, beliefs, and skills'. This process is, therefore,

474   totally consistent with a mastery motivational climate and involves creating dynamic relationships

475   between teachers and learners that promotes student learning and personal growth (Slavich &

476   Zimbardo, 2012).

477   Being approachable and sympathetic are factors that demonstrate a caring pedagogy

478   (Nodding, 2005). Practices such as valuing learners, helping them, being tolerant of mistakes,

479   supporting, encouraging and treating them respectfully are all indicators of a caring pedagogy, which

480   emphasises the personal and social growth of the learners (Seidentop & Tannehill, 2000). If

481   participants feel listened to and respected by the teacher/coach then they are more likely to apply

482   themselves fully (Whitehouse et al., 2015). Mutual respect, accepting and valuing each other's

483   viewpoint, is also a key element of a positive motivational climate. Getting to know the participants

484   is an important aspect in developing and gaining this mutual respect, as is learning participants'

485   names and showing an interest in them as people. However, there is a danger of over familiarisation

486   with some participants and keeping a distance and a level of authority can also be important in order

487   to maintain respect. In this sense, respect is something that is given or not by the participants, based

488   on their judgement of the coach/teacher as a professionally and socially competent leader (Potrac et

489   al., 2002). Respect, therefore, needs to be earned in order to develop and maintain a positive

490   motivational environment.

491   The appropriate use of humour can also be a powerful skill in developing effective

492   relationships and a positive learning climate (Ronglan & Aggerholm, 2013)Humour can be used in a

493   self-effacing way to laugh at ones' self to defuse potential conflict, to break the ice in new situations,

494   or to reassure learners who are anxious, demonstrating the human side of the teacher/coach

495   (Ronglan & Aggerholm, 2013). According to Ronglan and Aggerholm, a sense of humour and

496   appropriate use of it can be seen as part of overall social competence, which is an important

497   element of fostering a positive learning environment. Indeed, pedagogical research has

498   demonstrated a positive relationship between teachers' use of humour and student learning

499   (Wanzer & Frymier, 1999). Furthermore, shared humour amongst a group can also lead to a sense of

500   belonging, which links well to the grouping structure of TARGET (Ames, 1992a) and innate needs in

501   Self Determination Theory (Deci & Ryan, 1985), both of which have been discussed earlier in this

502   article.

Conclusion

In conclusion, this article has attempted to argue the case for a re-conceptualisation of motivational climate as a phenomenon that is not purely psychological in nature, and represented predominantly by psychological theory, but also highly dependent upon pedagogical and sociological structures and theories in PE and sport coaching environments. Indeed, this article argues that it is the practitioners' understanding of the interdisciplinary relationships between these three areas that will help them to make sense of their practical contexts and to foster an effective and stimulating learning environment. Interdisciplinary research is often difficult to generate but it is anticipated that this article will inspire such research into motivational climate in PE and sport settings by identifying the interdisciplinary link within the phenomenon, whilst adopting a modified TARGET framework (See Table 1.). In particular, the greater focus on the relationships between teacher/coach and learners is a potentially rich area for future research. As such, the addition of 'relationships' to the recognition and rewards (R) structure of TARGET is considered to be an important conceptual and theoretical development in this article. The other key argument is that the modified TARGET framework presented in this paper provides the broadest and most holistic framework to combine the psychological, pedagogical and sociological aspects of motivational climate and should, therefore, be further researched and developed to investigate and broaden the concept of motivational climate.
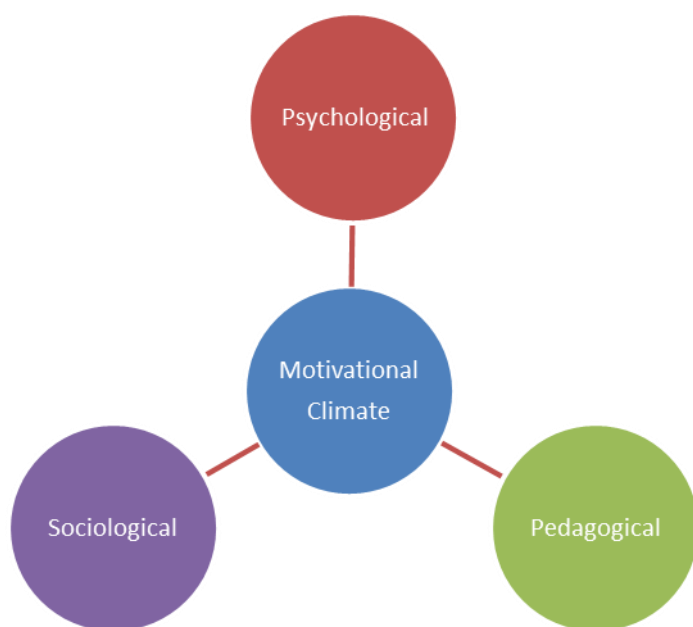
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Fig 1. The different disciplines that impact on motivational climate in PE and sport coaching

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TARGET Structure	TARGET Description	Interdisciplinary Links
Task	Shared goals Differentiation Variety & Novelty	Goal setting Inclusion Teaching styles Spectrum Physical Literacy Caring & nurturing Skill acquisition TGfU model
Authority	Decision making and leadership opportunities	Self Determination Empowerment Orchestration Scaffolding Teaching styles Spectrum Teaching models: TgfU & Sport Education
Recognition, Rewards & Relationships	Notice individual progress effort and improvement. Develop effective relationships with learners. Care for individuals.	Noticing Nurturing Feedback Sport Education model Positivity Caring Respect Humour Transformational leadership Transformational teaching
Grouping	Cooperative groups Homogenous & heterogeneous Variety	Relatedness Affiliation Interpersonal relationships Sport Education Model Peer/reciprocal teaching styles
Evaluation	Individual self-referenced progress and effort	Observation Assessment for learning Formative assessment Questioning Feedback Peer & Self evaluation Ipsative assessment
Time	Flexible time to learn	Time on task Active learning time

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540   Table 1. Redefined TARGET structures and interdisciplinary connections

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