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PERFORMANCE DEMAND MODEL'S UTILITY

1 Coaches' evaluations of the utility of the Performance Demand Model for Sport

2 Abstract

3 The Performance Demand Model for Sport (PDM; Males, Hudson, & Kerr, 2018) is based on four
4 psychological *fundamentals: mastery motivation, decision making, execution, teamship*. Four elite coaches
5 from canoe slalom, rugby sevens, rowing, and athletics evaluated the utility of the PDM model and later
6 trialled it with elite athletes. Two sets of semi-structured interviews provided subjective statements that
7 generally: (a) supported PDM process-based principles; and (b) post-field trials, endorsed the PDM for
8 elite athlete use. With one exception, coaches used the PDM with athletes in different ways, recommending
9 customisation, simplification and a focus on specific training contexts to enhance utility.

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10 Coaches' evaluations of the utility of the Performance Demand Model for Sport

11 The basic Performance Demand Model for Sport (PDM) was presented by Males, Hudson, and
12 Kerr (2018). The need for the PDM was identified by the first author following his experience as an
13 international competitor and over 20 years of applied sport psychology work with Olympic and
14 Paralympic athletes and coaches. The model was then developed in consultation with three other sport
15 psychologists. Males, Hudson, & Kerr (2018) stated:

16 Applied sport psychologists require a working model of the relationship between mental state and
17 sports performance (Poczwadowski, Sherman & Ravizza, 2004, [see also Gardner and Moore,
18 2007: Hardy, Gould & Jones, 1996]). Ideally, this will be based on a robust theoretical underpinning
19 and be easily understood by coaches and athletes" (, p. 63).

20 The PDM offers a generic framework, adaptable to the dynamic processes and transitions involved
21 in a range of sports. It is relevant for both applied sport psychologists and coaches set in a coach-friendly
22 sport psychology framework with the aim of benefitting competitive performance. In practice, use of the
23 PDM begins with the athlete and coach identifying the specific psychological demands to be faced, and
24 successfully overcome, through the different stages of their event. Coaches and athletes are then invited to
25 generate their own solutions to a commonly agreed, understood and contextualized set of challenges across
26 pre-event, competition, and post-event stages of competition in what is a natural process of learning and
27 adaption. In most performance environments, the coach typically has more frequent and more regular
28 contact with athletes than does a sport psychologist. A sport psychologist can use the principles described
29 here to empower and enable a coach to embed psychological skills development within his or her daily
30 interaction with athletes, or the sport psychologist could use this approach to consult with the coach and
31 athlete together.

32 The PDM adopts a process view of performance in sport which is psychologically-based and
33 underpinned by concepts from reversal theory (Apter, 2001). Reversal theory takes an approach to

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34 motivation, emotion and personality which argues that individuals' motivations and emotions are
35 inherently inconsistent, but there can be a pattern to this inconsistency. The theory proposes a
36 framework of eight pairs of opposing motivational states, each of which represents a basic
37 psychological motive or value (see Table 1). These are: *serious-playful (telic-paratelic)*, *negativistic-*
38 *conformist, mastery-sympathy*, and *self-oriented-other-oriented* pairs of states. In the serious state
39 individuals prefer activities that are perceived to be significant and have meaning beyond their
40 immediate fulfilment. In the playful state individuals enjoy activities that are spontaneous and fun. In
41 the conformist state individuals value belonging, wanting to meet prevailing norms and social
42 expectations, but in the *negativistic* state desire freedom and react against expectations by being
43 rebellious. In the *mastery* state a person values competition and seeks power, control and toughness,
44 but in the *sympathy* state values co-operation, care, affection and nurture. In the self-oriented state
45 individuality is valued and pleasure or displeasure result from what happens to oneself, but in the
46 *other-oriented* state pleasure or displeasure depend on the experience of others. Individuals reverse
47 between opposing motivational states from each of the four pairs which typically occur in combination
48 (Apter, 1982, 2001; Kerr, 1997 in sport). State combinations lead to different emotions, dependent on
49 the degree to which motivational needs are met or not met (i.e., producing pleasant or unpleasant
50 emotions; e.g., serious-conformity - relaxation or anxiety; playful-conformity - boredom or excitement;
51 self-mastery - humiliation or pride). There are three types of causal factors (see Apter, 1982, 2001) that
52 can induce a reversal from one state to its opposite: *frustration*, when the needs of an individual's
53 current state are not met; changes in relevant *external events*; and reversals occurring naturally over
54 time due to *satiation*. For a review of reversal theory-based research studies on sport and performance
55 see Hudson, Males, and Kerr (2016).

56 The PDM offers a framework that incorporates four main cross-sport themes or fundamental
57 psychological capabilities required for meeting performance demands. These are underpinned by

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58 reversal theory's motivational states and are: *mastery motivation* (e.g., a positive, professional, and
59 goal-oriented approach to training and competition), *decision making* (e.g., ability to manage
60 information, analyse event and competitor demands and set goals), *execution* (e.g., capacity to be
61 totally task-focused and to make fast responses under pressure despite distractions), and *teamship* (e.g.,
62 ability to build and maintain relationships with teammates and contribute to an effective team
63 environment). Individual *fundamentals* can bracket a range of motivational states at different times and
64 under different circumstances. For example, *decision making* can require both conformity and
65 negativism to engage with risk and creativity when required; *teamship* can include other-oriented-
66 mastery or sympathy to challenge or support team mates; and *mastery motivation* can paradoxically
67 include self-oriented-sympathy when an athlete needs to be able to rest and recover after intense
68 competition. Therefore, in terms of the *fundamentals*, it is important for athletes to learn how to change
69 states when appropriate.

70 The PDM was originally trialled during a three-month intervention with an experienced coach and
71 three 17 year-old junior athletes preparing for the Junior World Championships (Males, Hudson, & Kerr,
72 2018). The PDM was explained to the coach and athletes who then agreed to explore how the four
73 *fundamentals* could be applied in their training sessions. A PDM checklist (see Figure 1) was designed to
74 assist in this process. Diaries were also kept where athletes could note their reflections. Email and video-
75 conference exchanges allowed the coach to share observations and further questions about applying the
76 PDM in training, issues with specific athletes and team preparation.

77 Email and video-conference exchanges allowed the coach to share observations and further
78 questions about applying the PDM in training, issues with specific athletes and team preparation. After
79 the Junior World Championships, a common set of questions was used to elicit feedback from the
80 coach and athletes. Both were positive about the PDM, with the coach reporting the value of having a
81 simple psychological framework and shared language to address the psychological elements of

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82 performance. He also saw greater opportunities to refine and apply the approach used during the
83 intervention during the forthcoming domestic season. Among other comments, their athletes, remarked
84 about the importance of *mastery motivation* in helping them adopt a disciplined and serious approach to
85 improving their own personal performance. The overall conclusion from that intervention was that the
86 PDM shows considerable promise for use by athletes and coaches.

87 The PDM *fundamentals* were again examined by **six** different coaches who worked with
88 idiosyncratic sport-specific PDM checklists (Hudson, Males, & Kerr, 2019). The development process
89 involved very experienced coaches currently working with elite athletes (i.e., athletes performing at
90 national or international level, or professionals making a living from their sport: Swann, Moran, & Piggott,
91 2015). The coaches had extensive experience at European, Commonwealth, Olympic and Paralympic
92 Games and covered a range of individual (target shooting, squash and canoe slalom), and team sports
93 (soccer, men's and women's field hockey). Careful analysis of interviews with these coaches suggested,
94 among other findings, that the PDM was supported by elite coaches from a range of sports demonstrating
95 its general applicability, albeit with some sport specific modifications. It was found to be particularly
96 useful in helping athletes and coaches to develop a shared understanding of the specific mental and
97 physical requirements of their sports (Hudson, Males, & Kerr, 2019).

98 The results of previous studies of the utility of the basic PDM for sport (Males, Hudson, & Kerr,
99 2018; Hudson, Males, & Kerr, 2019) provided promising results, but the number of coaches and
100 athletes involved was limited and additional research is necessary. This current report provides an
101 account of a further test of the utility of the basic PDM. Sports coaches working with elite athletes were
102 ideally placed to test the PDM by applying it in the field and allowing the model to be used in training
103 and competitive contexts, evaluated and possibly refined.

104 This current report provides an account of a further test of the utility of the basic PDM for Sport
105 (Males, Hudson, & Kerr, 2018). Sports coaches working with elite athletes were ideally placed to test

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106 the PDM by applying it in the field and allowing the model to be used in training and competitive
107 contexts, evaluated and possibly refined.

108 **Method**

109 **Participants**

110 Elite level coaches can draw on their wide-ranging and varied experiences with numerous
111 athletes across different performance environments and are well-placed to assess the practicality of the
112 PDM. Four national level coaches (1 female) between 34 and 49 years of age with 20, 17, 15 and 5
113 years of coaching national and/or Olympic teams respectively, were targeted. The coaches were: Coach
114 A - rowing, B – athletics heptathlon, C – rugby sevens, and D - canoe slalom. None took part in the
115 initial development of the basic PDM. Coaches were recruited by personal approach or via their
116 National Governing Body. Ethical approval to interview the coaches was obtained from a British
117 University ethics committee, informed consent was obtained from the coaches and confidentiality is
118 protected here by the omission of biographical details.

119 **Procedure**

120 Each coach was introduced to the PDM and the four *fundamentals* (*mastery motivation,*
121 *decision making, execution, and teamwork*) by the first author (an applied sport psychologist with
122 Olympic-level experience) who explained their origins and the need to test their applied relevance.
123 Coaches were invited to challenge, adapt or reject the concepts to ensure they were meaningful and
124 pragmatic. The coaches were asked to define the pre-event, competition and post-event phases of their
125 sport, and then explore how they could use the *fundamentals* to increase their ability to meet the
126 relevant performance demands. Finally they were asked to use the PDM as they wished over the next 3
127 months, allowing time for each coach to make use of the model. After three months an evaluation
128 interview took place. A semi-structured interview protocol framed the conversation and follow up
129 questions probed further detail on responses to gain feedback on the relevance, comprehensiveness,

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130 clarity and applicability of the model (Denzin & Lincoln, 2000). Suggested modifications were also
131 elicited and discussed. All interviews were recorded and transcribed verbatim for later analysis.

132 **Data Analysis**

133 Coaches' interview statements were examined and interpreted by the first author who identified cross-
134 sport themes for the temporal phases of competition (pre-event, competition and post-event periods).
135 The transcripts and summaries were then reviewed by an independent analyst to enhance the
136 trustworthiness of the data. Following discussion and reflection by both, the few differences in
137 interpretation were resolved and the conclusions drawn subsequently confirmed (Denzin & Lincoln,
138 2000; Biddle, Markland, Gilbourne, & Chatzisarantis, 2001; Morrow, 2005). While the analyst did
139 offer some critical commentary, he also confirmed that the conclusions drawn were supported by the
140 coach interviews and that the concepts of the four *fundamentals* were conceptually well grounded in,
141 and coherent with Reversal Theory and their indicators appeared to resonate with the respondents.

142 **Results**

143 The four *fundamentals* were perceived by the coaches as a useful framework to describe the core
144 components of mental performance in their sports. For example, Coach D (canoe slalom) said, "I was
145 able to use these ideas to discuss specific situations and responses with athletes...the whole thing
146 interconnects and works as one whole."

147 **Mastery Motivation**

148 The coaches agreed on the relevance of mastery motivation to competitive success. As Coach A
149 (rowing) said, "The mastery – sympathy thing [motivational states from reversal theory] is critical, if
150 someone can't [get into the mastery state] . . . they won't be on the programme". In reversal theory,
151 mastery is about being competitive, tough and dominant, and wanting to defeat opponents and win.
152 Sympathy is about being sensitive, cooperative, and having a desire for harmony or unity (Apter, 2001;
153 Hudson, Males, & Kerr, 2016). Coach A also offered a detailed commentary on the positive and

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154 negative indicators of *mastery motivation* in relation to rowing, challenging the idea that self-awareness
155 and an ability to express emotion are positive indicators, suggesting that many elite rowers display a
156 limited ability to express emotion and just “get on with it”. He did not view emotional self-awareness
157 as a pre-requisite suggesting this “slipped into psycho-babble”. Coach D (canoe slalom) stated that:
158 “the concept of mastery motivation was very helpful as it presented a way of thinking about
159 performance excellence without a strong emphasis on competition outcomes.” He also suggested that it
160 was important to make the contrast between mastery and sympathy states more explicit when
161 introducing mastery motivation to athletes:

162 Having the idea that for each of these things there is a ‘not good’ alternative, would be good to
163 bring out, this is what we would have to teach people is what does differentiate the people
164 who’ve made it, this is what it looks like, they have this desire to compete, you don’t always get
165 it right because you get upset about results, but that idea is a really good basis, if you’ve got that
166 right you’re a long long way down the road to being successful.

167 Coach B (heptathlon) who, works with athletes competing in seven athletic events ranging from the
168 100m sprint to shot putt, used *mastery motivation* to talk about individual differences in her squad of
169 athletes and consider different coaching approaches. She pointed out that the PDM materials could be
170 adapted to a specific sport’s demands:

171 “...You have to look into them a little bit more and describe them and get an understanding of
172 what they are within each sport, I guess that’s why they are broad and then you relate it really, to
173 your sport.”

174 However, Coach A (rowing) criticised the PDM somewhat for missing some athletes' obsessive, pursuit
175 of winning:

176 The only thing that might be missing is a kind of ruthless obsessive thing about winning, it’s sort
177 of in there but maybe there’s a politically correct thing about not saying it, because you want

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178 people to be focused on process goals. But the real winners have that ruthless, very assertive
179 bordering on being annoying, fairly obsessive to the point of being weirdly obsessive, pursuit of
180 winning.

181 **Decision Making and Execution**

182 In explaining the constructs to the coaches, *decision making* was positioned as mainly relevant
183 in the pre- and post-event phases, and *execution* in the performance phase. The coaches challenged this,
184 suggesting that *execution* was relevant in the pre-event phase and in training, and that *decision making*
185 was relevant during competition. For example, Coach B (heptathlon) explained that in the warm-up
186 period athletes complete several 'run throughs' for the high jump and take practice javelin throws, all
187 requiring *execution* to replicate the technique and mental focus needed in competition. Examples of
188 other coach responses on *decision making* and *execution* included Coach D (slalom canoeing), who
189 described how training practices were specifically designed to train canoeists to *execute* well under
190 difficult conditions:

191 We worked on a a lot of distractions so setting clear challenges on the water and then presenting
192 lots of external distractions and upsetting the norm. This allowed the athletes to understand that at
193 their core they had an underlying competence that allowed them to execute well even when some
194 of the things that they normally would rely on were taken away.

195 Also, Coach C (rugby sevens) was frustrated that his players were not performing well under pressure,
196 and gave several examples of players failing to execute agreed tactics on the field. As he reviewed the
197 definitions of the *decision making* and *execution fundamentals* he saw fresh relevance and wanted to
198 use them again to talk with his players. He believed that the clarity of language and descriptions of the
199 *fundamentals* would help the players and coaches talk together more effectively about performances.

200 Finally, Coach A (rowing) described a need to "keep flicking switches" between *decision making* and
201 *execution* during intense short bursts, using language that reflected the notion of motivational state

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202 reversals from reversal theory, although implying they are athlete-induced. These were all examples of
203 how the reversal theory-based materials prompted insights into typical coaching challenges.

204 **Teamship**

205 There were interesting differences in the coaches' responses to *teamship* that were related to the
206 nature of each sport. Canoe slalom, for example, is primarily an individual sport, although athletes and
207 coaches train and travel in a team, leading Coach D (canoe slalom) to observe that:

208 The one [*fundamental*]which offered the most insight to me was *teamship*, this idea of using the
209 people around you to add to your capacity and performance, whilst yourself contributing to the
210 performance of the people around you, is something that I hadn't really thought of to a great
211 extent in performance psychology regard.

212 The other coaches were more familiar with the principle of *teamship* and offered specific
213 feedback on its relevance to their sport. Coach C (rugby sevens) believed that the *teamship* definition
214 needed to reinforce the communication and understanding between players, making it clear that there
215 needs to be a response to communication to show it has been heard and understood: "This will back up
216 a focus on building stronger playing relationships – getting clearer about on-field expectations." Coach
217 B (heptathlon) used the research as an opportunity to help educate her less experienced athletes about
218 the realities of their sport: "they'll go "but I'm not in a team", but "you are because you've got all these
219 people behind you actually" but for them it's a better understanding. She did however change the
220 terminology from *teamship* to 'athlete-coach relationship', to make it more specific to her context. She
221 described this as how much the athlete trusts the feedback, decision making and communication
222 between athlete and coach. Coach A (rowing) was also not satisfied with the word *teamship* – "it's
223 better to use a real English word, could use team, or interaction with other people, whatever". But he
224 was committed to the importance of the principle: "In rowing, working with other athletes is something
225 a lot of people don't get right, especially on crews because if you say anything it's taken as a criticism."

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226 **Coaches' Use of the PDM with Athletes**

227 While, the coaches all understood and supported the rationale of the PDM, they used it in
228 different ways with athletes, but also did not use it consistently. For example, in a pre-rugby
229 tournament group session, Coach C gave each player a laminated version of the PDM to stimulate pre-
230 event preparations and post-match review. He stated, “I need to individualise them for players, this will
231 make them simpler and easier to use. We also need a simple version for training, perhaps to help focus
232 on one category at a time.” For Coach D (canoe slalom), the materials had become part of a shared
233 language between coach and athletes, used when planning and reviewing race and training
234 performances; he commented:

235 The performance model did a good job of outlining the challenges around competition. I think
236 it distils a complicated environment in some easy to understand chunks which allow the athletes
237 to be a bit more aware of how their thinking is impacting their performance.”

238 However, Coach D (canoe slalom) also made the only substantive criticism of the PDM, stating:

239 The only thing that I felt maybe missing was really the idea of a focus and level of attention that
240 is necessary in training and in competition. Some way of understanding the intensity with which
241 you are tuned in to thinking in a particular way during your preparation and your competition
242 performance. Some athletes vary greatly in their ability to have the appropriate attention during
243 their performance and this is something that is important to understand the triggers and how to
244 practice it well.

245 Coach B (heptathlon) made some use of the PDM as a checklist during conversations with athletes
246 before training sessions. Coach A (rowing) did not use the PDM with his athletes, but did not give a
247 reason for this. However, when talking about the usefulness (or not) of the PDM he did say: “It’s a
248 useful re-framing, there’s not much new for someone old like me, but it’s a useful model to work with.”
249 It might be speculated that the middle phrase in this quote could be the reason why he did not.

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Discussion

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Coach A (rowing) questioned our suggestion, (based on data from Males, Hudson, & Kerr, 2018),

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that emotional expression and self-awareness are positive indicators of *mastery motivation* in his sport.

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Interpreted more broadly we suggest from his observation that whilst we generated positive and

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negative indicators of each of the *psychological fundamentals*, these should only be offered as

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exemplars and not comprehensive indicators. Thus, the coach and athlete should be encouraged to

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develop and customise these in relation to the demands of their own sport. Three of the coaches

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suggested that a simplified version of the PDM was needed that was less wordy and more personalised

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to the individual athlete's needs. Our own reflections support this view, and experience of developing

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and using the PDM subsequently suggests that sport psychology practitioners will benefit most from

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adopting a ground up approach to developing the PDM with coaches and athletes. This is in keeping

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with the idea that the PDM is intended to be a pragmatic psychology-based coaching tool rather than a

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"one size fits all" concept, or an overly academic or conceptual exercise. The PDM checklist we have

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presented here is not intended to be prescriptive, but to give an example of how the PDM process can be

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recorded for use by athletes and coaches. Practitioners may prefer to adapt the self-scoring to use a

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numerical scale instead of colour coding, for example. The PDM checklist is a tool to help facilitate

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conversations and raise the awareness of athletes, coaches and practitioners. It can be used to review or

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prepare for a specific event, or at the start of the season to help identify priority areas for psychological

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skills development. Anecdotal evidence suggests that young athletes in particular gain benefit from the

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process orientation of the PDM which invites them to consider the changing nature of performance

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demands within their event. Perhaps the point is not just to simplify, but also to ensure adequate

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development time with coaches and athletes so that the materials and definitions are well grounded in the

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language and context of a given sport.

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273 In addition, the coaches highlighted that they and their athletes spend far more time training than
274 competing. To be fully relevant, the materials need to be ecologically valid for training as well as
275 competition. The PDM materials and concepts need to be adapted more specifically so that coach and
276 athletes can emphasise different *fundamentals* across training sessions, set goals and monitor progress
277 through the season. This will also potentially show the athlete how their performances and
278 achievements in training will support their physical and mental skills in competition.

279 Coaches' feedback on the *fundamentals* resonates with previous explorations of motivational
280 states in sport and adventure activities (e.g., Kerr & Houge Mackenzie, 2014; Males et al., 1998). For
281 example, the notion that athletes can be helped to manage their motivational states, once awareness of
282 the most appropriate states for different phases of competition has been gained through a PDM, has
283 some support from coaches' feedback. Changes in motivational state (reversals) have been observed
284 during competition (e.g., Hudson & Walker, 2002). These motivational changes are supported and
285 explained by the PDM as essential elements of transitioning from pre-event *decision making* to during
286 competition *execution*. The intense focus needed during *execution* discussed by coaches in our study
287 also garners support from previous research that identified intense focus as an element of flow states in
288 adventure sports (Houge Mackenzie, Hodge, & Boyes, 2011). Much RT research, including the
289 development of the PDM, relied on qualitative methods, which was appropriate given the theory's
290 phenomenological basis. There has been no attempt yet to use experimental methods that explore the
291 relationship between motivational states and concurrent perceptual-cognitive processes. This line of
292 inquiry offers benefits in better understanding coaches' observations about decision making and
293 execution. There is an intriguing parallel between Kahneman's (2012) System 1 thinking (fast,
294 effortless, unconscious) and *execution*, and System 2 (conscious, deliberative, slow) and *decision*
295 *making*. Additionally, an athlete's capacity to interpret different types of sport-specific visual
296 information for the production of action would seem to underpin his or her capacity for effective 'heat

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297 of the moment' decisions during execution (Farrow & Abernethy, 2015). Finally, previous examination
298 of team processes (e.g., Males, Kerr, Thatcher, & Bellew, 2006) during failures in performance
299 highlighted the negative effects which occur when team sport athletes are unable to access a mastery
300 and/or sympathy state at the relevant times, reflecting the positive and negative indicators of *teamship*
301 as described here.

302 **Conclusion**

303 Previous work with the PDM (Males, Hudson, & Kerr, 2018; Hudson, Males, & Kerr, 2019) had
304 suggested that it offered new and original insights into coaching guidance, athlete preparation and coach-
305 athlete interaction in the pursuit of enhanced performance, and this was generally supported here. The four
306 elite coaches in this evaluation project endorsed the utility of the process-based PDM and the notion of the
307 four *psychological fundamentals*. However, they applied or discussed application of the model in their
308 coaching practice with athletes to varying degrees and the results did indicate different coach and sport
309 expectations. The basic PDM appears to have value as a tool for use by elite coaches with elite athletes in
310 training and competitive sports environments. Although coach numbers were small and there were some
311 criticisms, the main conclusions from coaches' feedback were that: (a) the PDM materials need to be
312 customised to suit coach and athletes' particular performance demands in their sport; (b) parts of the PDM
313 may need to be simplified to be more immediately relevant for athletes; and (c) a strong focus of the PDM
314 should be on its use in training contexts. The PDM does need further trialling with consistent usage by
315 applied sport psychologists and/or coaches across a range of other sports at elite and other levels of
316 performance. It will also be important to investigate the opinions of the athletes themselves to further
317 assess the utility of the PDM.

318 As it stands now, the PDM has the potential to be a process-oriented novel and pragmatic model that
319 has significance for applied sport psychology. It can be used to: (a) develop athlete and coach maturity by
320 encouraging structured self-reflection on the nature of performance, and the necessary psychological and

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321 other skills needed to meet these demands; (b) develop the capacity of coaches to take a more holistic
322 approach; and (c) develop athlete self responsibility. This manuscript marks an additional successful
323 application of reversal theory to the field of sport psychology. Sport psychologists may wish to further
324 explore the PDM and the reversal theory approach."

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PERFORMANCE DEMAND MODEL'S UTILITY

393 Figure 1. Example of a Performance Demand Model checklist used with a canoe slalom coach and
 394 athletes during a 3-month psychological intervention as part of team preparation prior to a World Junior
 395 Championship (Males, Hudson, & Kerr, 2018). It has a color-coded rating scale for each behavioral
 396 descriptor. Green means “I consistently display this, it’s a real strength”, amber means “I sometimes
 397 display this, it needs work” and red means “I rarely display this, it’s a barrier to my performance”.

Performance Model	Name:	Date:
Pre Race		  
Mastery Motivation I have a positive attitude to competition – I see racing as a challenge not a threat.		
I feel confident and comfortable in the race-day environment.		
I feel confident in my knowledge and experience of key technical challenges, developed through quality preparation and training		
Decision Making I can assess the specific technical challenges presented by the event.		
I can develop a plan to ‘solve the problems’ posed by the event.		
I remain open to late information from coaches and can integrate it into my race plan.		
Teamship I maintain an honest and open relationship with coaches and support staff.		
I contribute to a supportive team environment.		
Competition		  
Mastery Motivation I am motivated to deliver my best possible performance at this moment in time		
I have a confident and positive attitude, focused on my strengths not my weaknesses.		
Execution I focus on the here and now; <i>not</i> on the competition outcome		
I trust in my chosen plan and my technical skills to meet the competition challenges.		
I am fearless and willing to take risks without ‘defending a position’.		
I am adaptable to move to alternative tactics and compete reactively when necessary		
I maintain a steady emotional state.		
After the race		  

PERFORMANCE DEMAND MODEL'S UTILITY

<p>Mastery Motivation I manage my immediate emotional response to the outcome, whether good or bad.</p>			
<p>Decision Making I rationally reflect and evaluate my performance to identify learning to take into the next event.</p>			
<p>Teamship I maintain an honest and open relationship with coaches and support staff.</p>			
<p>I contribute to a supportive team environment</p>			

PERFORMANCE DEMAND MODEL'S UTILITY

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Table 1. Showing possible reversals between motivational states and reversal inducing agents.

Motivational state	Reversals induced by frustration, external events, or satiation	Opposing motivational state
Serious (telic): <i>planning, goal & outcome-oriented, arousal-avoiding</i>	↔	Playful (paratelic) <i>spontaneous, process-oriented, arousal-seeking</i>
Conformist: <i>compliant, agreeable, rule-abiding</i>	↔	Negativistic: <i>rebellious, unconventional, defiant</i>
Mastery: <i>competitive, dominating</i>	↔	Sympathy: <i>relationship-oriented, desire for harmony</i>
Self-focused (autic): <i>egoistic, concern for self</i>	↔	Other-focused (alloic) <i>altruistic, concern for others</i>

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