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

Abstract

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

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

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

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

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

The PDM offers a framework that incorporates four main cross-sport themes or fundamental psychological capabilities required for meeting performance demands. These are underpinned by
reversal theory’s motivational states and are: *mastery motivation* (e.g., a positive, professional, and goal-oriented approach to training and competition), *decision making* (e.g., ability to manage information, analyse event and competitor demands and set goals), *execution* (e.g., capacity to be totally task-focused and to make fast responses under pressure despite distractions), and *teamship* (e.g., ability to build and maintain relationships with teammates and contribute to an effective team environment). Individual *fundamentals* can bracket a range of motivational states at different times and under different circumstances. For example, *decision making* can require both conformity and negativism to engage with risk and creativity when required; *teamship* can include other-oriented-mastery or sympathy to challenge or support teammates; and *mastery motivation* can paradoxically include self-oriented-sympathy when an athlete needs to be able to rest and recover after intense competition. Therefore, in terms of the *fundamentals*, it is important for athletes to learn how to change states when appropriate.

The PDM was originally trialled during a three-month intervention with an experienced coach and three 17-year-old junior athletes preparing for the Junior World Championships (Males, Hudson, & Kerr, 2018). The PDM was explained to the coach and athletes who then agreed to explore how the four *fundamentals* could be applied in their training sessions. A PDM checklist (see Figure 1) was designed to assist in this process. Diaries were also kept where athletes could note their reflections. Email and video-conference exchanges allowed the coach to share observations and further questions about applying the PDM in training, issues with specific athletes and team preparation. Email and video-conference exchanges allowed the coach to share observations and further questions about applying the PDM in training, issues with specific athletes and team preparation. After the Junior World Championships, a common set of questions was used to elicit feedback from the coach and athletes. Both were positive about the PDM, with the coach reporting the value of having a simple psychological framework and shared language to address the psychological elements of
performance. He also saw greater opportunities to refine and apply the approach used during the intervention during the forthcoming domestic season. Among other comments, their athletes, remarked about the importance of mastery motivation in helping them adopt a disciplined and serious approach to improving their own personal performance. The overall conclusion from that intervention was that the PDM shows considerable promise for use by athletes and coaches.

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

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

This current report provides an account of a further test of the utility of the basic PDM for Sport (Males, Hudson, & Kerr, 2018). Sports coaches working with elite athletes were ideally placed to test
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the PDM by applying it in the field and allowing the model to be used in training and competitive contexts, evaluated and possibly refined.

Method

Participants

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

Procedure

Each coach was introduced to the PDM and the four fundamentals (mastery motivation, decision making, execution, and teamship) by the first author (an applied sport psychologist with Olympic-level experience) who explained their origins and the need to test their applied relevance. Coaches were invited to challenge, adapt or reject the concepts to ensure they were meaningful and pragmatic. The coaches were asked to define the pre-event, competition and post-event phases of their sport, and then explore how they could use the fundamentals to increase their ability to meet the relevant performance demands. Finally they were asked to use the PDM as they wished over the next 3 months, allowing time for each coach to make use of the model. After three months an evaluation interview took place. A semi-structured interview protocol framed the conversation and follow up questions probed further detail on responses to gain feedback on the relevance, comprehensiveness,
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Clarity and applicability of the model (Denzin & Lincoln, 2000). Suggested modifications were also elicited and discussed. All interviews were recorded and transcribed verbatim for later analysis.

Data Analysis

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

Results

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

Mastery Motivation

The coaches agreed on the relevance of mastery motivation to competitive success. As Coach A (rowing) said, “The mastery – sympathy thing [motivational states from reversal theory] is critical, if someone can’t [get into the mastery state] . . . . they won’t be on the programme”. In reversal theory, mastery is about being competitive, tough and dominant, and wanting to defeat opponents and win. Sympathy is about being sensitive, cooperative, and having a desire for harmony or unity (Apter, 2001; Hudson, Males, & Kerr, 2016). Coach A also offered a detailed commentary on the positive and
negative indicators of *mastery motivation* in relation to rowing, challenging the idea that self-awareness
and an ability to express emotion are positive indicators, suggesting that many elite rowers display a
limited ability to express emotion and just “get on with it”. He did not view emotional self-awareness
as a pre-requisite suggesting this “slipped into psycho-babble”. Coach D (canoe slalom) stated that:

“the concept of mastery motivation was very helpful as it presented a way of thinking about
performance excellence without a strong emphasis on competition outcomes.” He also suggested that it
was important to make the contrast between mastery and sympathy states more explicit when
introducing mastery motivation to athletes:

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

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

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

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

> The only thing that might be missing is a kind of ruthless obsessive thing about winning, it’s sort
> of in there but maybe there’s a politically correct thing about not saying it, because you want
people to be focused on process goals. But the real winners have that ruthless, very assertive bordering on being annoying, fairly obsessive to the point of being weirdly obsessive, pursuit of winning.

**Decision Making and Execution**

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

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

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

Finally, Coach A (rowing) described a need to “keep flicking switches” between *decision making* and *execution* during intense short bursts, using language that reflected the notion of motivational state...
reversals from reversal theory, although implying they are athlete-induced. These were all examples of how the reversal theory-based materials prompted insights into typical coaching challenges.

**Teamship**

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

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

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

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

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

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

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

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

It might be speculated that the middle phrase in this quote could be the reason why he did not.
Coach A (rowing) questioned our suggestion, (based on data from Males, Hudson, & Kerr, 2018), that emotional expression and self-awareness are positive indicators of mastery motivation in his sport. Interpreted more broadly we suggest from his observation that whilst we generated positive and negative indicators of each of the psychological fundamentals, these should only be offered as exemplars and not comprehensive indicators. Thus, the coach and athlete should be encouraged to develop and customise these in relation to the demands of their own sport. Three of the coaches suggested that a simplified version of the PDM was needed that was less wordy and more personalised to the individual athlete’s needs. Our own reflections support this view, and experience of developing and using the PDM subsequently suggests that sport psychology practitioners will benefit most from adopting a ground up approach to developing the PDM with coaches and athletes. This is in keeping with the idea that the PDM is intended to be a pragmatic psychology-based coaching tool rather than a "one size fits all" concept, or an overly academic or conceptual exercise. The PDM checklist we have presented here is not intended to be prescriptive, but to give an example of how the PDM process can be recorded for use by athletes and coaches. Practitioners may prefer to adapt the self-scoring to use a numerical scale instead of colour coding, for example. The PDM checklist is a tool to help facilitate conversations and raise the awareness of athletes, coaches and practitioners. It can be used to review or prepare for a specific event, or at the start of the season to help identify priority areas for psychological skills development. Anecdotal evidence suggests that young athletes in particular gain benefit from the process orientation of the PDM which invites them to consider the changing nature of performance demands within their event. Perhaps the point is not just to simplify, but also to ensure adequate development time with coaches and athletes so that the materials and definitions are well grounded in the language and context of a given sport.
In addition, the coaches highlighted that they and their athletes spend far more time training than competing. To be fully relevant, the materials need to be ecologically valid for training as well as competition. The PDM materials and concepts need to be adapted more specifically so that coach and athletes can emphasise different fundamentals across training sessions, set goals and monitor progress through the season. This will also potentially show the athlete how their performances and achievements in training will support their physical and mental skills in competition.

Coaches’ feedback on the fundamentals resonates with previous explorations of motivational states in sport and adventure activities (e.g., Kerr & Houge Mackenzie, 2014; Males et al., 1998). For example, the notion that athletes can be helped to manage their motivational states, once awareness of the most appropriate states for different phases of competition has been gained through a PDM, has some support from coaches’ feedback. Changes in motivational state (reversals) have been observed during competition (e.g., Hudson & Walker, 2002). These motivational changes are supported and explained by the PDM as essential elements of transitioning from pre-event decision making to during competition execution. The intense focus needed during execution discussed by coaches in our study also garners support from previous research that identified intense focus as an element of flow states in adventure sports (Houge Mackenzie, Hodge, & Boyes, 2011). Much RT research, including the development of the PDM, relied on qualitative methods, which was appropriate given the theory’s phenomenological basis. There has been no attempt yet to use experimental methods that explore the relationship between motivational states and concurrent perceptual-cognitive processes. This line of inquiry offers benefits in better understanding coaches’ observations about decision making and execution. There is an intriguing parallel between Kahneman’s (2012) System 1 thinking (fast, effortless, unconscious) and execution, and System 2 (conscious, deliberative, slow) and decision making. Additionally, an athlete’s capacity to interpret different types of sport-specific visual information for the production of action would seem to underpin his or her capacity for effective ‘heat
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of the moment’ decisions during execution (Farrow & Abernethy, 2015). Finally, previous examination
of team processes (e.g., Males, Kerr, Thatcher, & Bellew, 2006) during failures in performance
highlighted the negative effects which occur when team sport athletes are unable to access a mastery
and/or sympathy state at the relevant times, reflecting the positive and negative indicators of teamship
as described here.

Conclusion

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

As it stands now, the PDM has the potential to be a process-oriented novel and pragmatic model that
has significance for applied sport psychology. It can be used to: (a) develop athlete and coach maturity by
encouraging structured self-reflection on the nature of performance, and the necessary psychological and
other skills needed to meet these demands; (b) develop the capacity of coaches to take a more holistic approach; and (c) develop athlete self responsibility. This manuscript marks an additional successful application of reversal theory to the field of sport psychology. Sport psychologists may wish to further explore the PDM and the reversal theory approach."
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References


performance demand model’s utility


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

<table>
<thead>
<tr>
<th>Performance Model</th>
<th>Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastery Motivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a positive attitude to competition – I see racing as a challenge not a threat.</td>
<td></td>
<td></td>
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<tr>
<td>I feel confident and comfortable in the race-day environment.</td>
<td></td>
<td></td>
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<tr>
<td>I feel confident in my knowledge and experience of key technical challenges, developed through quality preparation and training</td>
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<td></td>
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<tr>
<td>Decision Making</td>
<td></td>
<td></td>
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<tr>
<td>I can assess the specific technical challenges presented by the event.</td>
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<td></td>
</tr>
<tr>
<td>I can develop a plan to ‘solve the problems’ posed by the event.</td>
<td></td>
<td></td>
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<tr>
<td>I remain open to late information from coaches and can integrate it into my race plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Teamship</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I maintain an honest and open relationship with coaches and support staff.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I contribute to a supportive team environment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Competition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastery Motivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am motivated to deliver my best possible performance at this moment in time</td>
<td></td>
<td></td>
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<tr>
<td>I have a confident and positive attitude, focused on my strengths not my weaknesses.</td>
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<td></td>
</tr>
<tr>
<td>Execution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I focus on the here and now; <em>not</em> on the competition outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I trust in my chosen plan and my technical skills to meet the competition challenges.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am fearless and willing to take risks without ‘defending a position’.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am adaptable to move to alternative tactics and compete reactively when necessary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I maintain a steady emotional state.</td>
<td></td>
<td></td>
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<tr>
<td><strong>After the race</strong></td>
<td></td>
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</tbody>
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PERFORMANCE DEMAND MODEL'S UTILITY
<table>
<thead>
<tr>
<th>Performance Demand Model's Utility</th>
<th>Mastery Motivation</th>
<th>Decision Making</th>
<th>Teamship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage my immediate emotional response to the outcome, whether good or bad.</td>
<td>I rationally reflect and evaluate my performance to identify learning to take into the next event.</td>
<td>I maintain an honest and open relationship with coaches and support staff.</td>
<td>I contribute to a supportive team environment</td>
</tr>
</tbody>
</table>
Table 1. Showing possible reversals between motivational states and reversal inducing agents.

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