Need of Self-Determination, Motivational Progresses & Perceived competence for fostering the standards of participation in Physical Activity & achieving goals in Sports

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Abstract

Perceived competence refers to how good individuals think they are in a specific domain or subdomain. Developmental theories of physical activity motivation (e.g., expectancy value theory, competence motivation theory, achievement goal theory, self-determination theory) emphasize the importance of ability beliefs for increasing physical activity motivation and behaviours. Aiming at a more comprehensive review of observed data, this article examines need of Self-Determination, Motivational Progresses & Perceived competence for fostering the standards of participation in Physical Activity & achieving goals in Sports. The understanding and modification of health behavior, including physical activity, has been guided by a cognitive, rationale paradigm. Within this paradigm, change is conceptualized as a linear, deterministic process. However, the conceptual and statistical assumptions underlying this cognitive, linear paradigm may be seriously flawed, and might limit our ability to explain and change health behavior. In particular, such a perspective fails to account for nonlinear, chaotic, and quantum influences on human thought and action. We propose that health behavior change, including diet and activity, is better understood through the lens of chaos theory and principles of self-determination theory & motivational processes. Research consistently shows that youth who express higher perceived physical competence also exhibit higher levels of self-determined motivation and physical activity behaviours such as effort, persistence, frequency, and intensity. Given the strong association between perceptions of competence and motivated behaviour in physical activity settings, knowing how youth judge whether they are capable at physical activities is essential for understanding how to optimally influence youths’ physical activity behaviour’s. This paper focuses on how these three factors helps to improve quality of participation in Physical Activity & achieving goals in Sports.
1 Introduction

Motivation is a critical factor in supporting sustained exercise, which in turn is associated with important health outcomes. Accordingly, research on exercise motivation from the perspective of self-determination theory (SDT) has grown considerably in recent years. Previous reviews have been mostly narrative and theoretical. Several sources of information are used by youth to determine how good they are at physical activities, including social sources (e.g., feedback from parents, coaches, teachers, and peers; peer comparison), self-referenced sources (e.g., emotions, improvement of past performance, goal achievement) and outcome sources (e.g., external rewards, performance statistics, finishing place). The relationships children have with significant adults and peers are clearly important factors influencing physical activity motivation. As mentioned earlier, establishing friendships and seeking recognition and approval from important adults are common reasons for continued physical activity motivation. Personal Goals and Physical Education Although a considerable amount of research has focused on the relationship between personal goals and sport involvement (Duda, 1989; Duda, Fox, Biddle, & Armstrong, 1992; Duda & Nicholls, 1992; Lochbaum & Roberts, 1993; Roberts, 1984; Treasure, & Roberts, 1994), only a few studies have applied and tested the conceptual relevance of achievement goal theory to physical education. Congruent with the classroom and sport domains, what research that has been conducted has consistently shown that achievement goal orientations are pertinent to the physical education experience. Walling and Duda (1995) found that students high in ego orientation were more likely than low ego oriented students to express the belief that success in physical education is achieved when they possess high ability. In addition, high task oriented students were significantly more likely to believe that success is achieved through intrinsic interest in the activity, cooperation, and high effort than low task oriented students. Finally, high task/low ego students were the least likely to believe that success stems from learning to skillfully deceive the teacher. Congruent with the findings of Walling and Duda (1995), Papaioannou and Duda (1993) have reported a positive relationship between a task orientation and intrinsic motives for participation with a sample of Greek adolescent physical education students. While one avenue of research related to achievement goals has demonstrated that individual differences in dispositional goal orientation are associated with different motivational processes, another avenue of research has focused on situational influences. This research has examined how the structure of the environment can make it more or less likely that a particular achievement goal will be adopted. The premise of research from a situational perspective is that the nature of children's experiences and how they interpret these experiences influence the degree to which task and ego involvement is perceived as salient within the context. This is assumed to affect the achievement behaviors of children so that they adopt adaptive achievement strategies (namely, to work hard, to seek challenging tasks, or to persist in the face of difficulty) in task-involving situations and adopt maladaptive achievement strategies (namely, to seek easy tasks, to reduce effort, or to give up in the face of difficulty) in ego-involving situations (see Ames, 1992a). In a study with academically advanced high school students, Ames and Archer (1988) reported a strong positive relationship between the perception of a task-involving motivational climate and adaptive motivational processes.

Specifically, students who perceived their experiences as task involving were more likely to use effort strategies, preferred challenging tasks, liked the class more, and believed success and effort covered.
Papaioannou (1995) has reported similar findings in a physical education setting. Papaioannou found that when the physical education setting was perceived as high in task involvement and low in ego involvement, students attributed success to effort and not ability. Additionally, irrespective of level of perceived ability, the perception of high task involvement was a strong predictor of various indices of motivation in physical education, such as intrinsic motivation, interest in the lesson, perceived importance of the lesson, perceived behavioral control, intentions for high effort, and intentions for participation in all physical education classes. In contrast, perceptions of high ego involvement were either negatively related or unrelated to motivational indices. In addition, the motivational climate created by teachers also affects students' achievement behaviors and strategies.

2 Barriers to participation in sport and physical activity
Challenges to identity such as having to show others an unfit body, appearing incompetent at core skills and, for women, appearing overly masculine were identified as barriers to participation. Participation was also hampered by difficulty in accessing, and the poor state of, facilities. A number of studies reported participant concerns with the cost of joining sporting clubs and fitness gyms. A number of authors concluded that an emphasis on the enjoyment and social benefits of physical activity was a good way to promote participation. A move away from authoritarian and prescriptive statements about the health benefits of exercise was another common recommendation. Many studies showed that people could not identify with the models of perfection used to promote physical activity and that ‘real life’ role models would be more effective. This finding held true in studies of older people, those from diverse ethnic backgrounds and teenagers. More variation in the types of physical activity offered was seen as a way of increasing interest among school children. During adolescence, flexibility in PE uniform, privacy in changing rooms and greater variation in the activities offered was particularly relevant for teenage girls. A further problem was the dominance of boys in competitive PE classes and the lack of support for girls from teachers. Changes in stage of life such as leaving school, having children, children leaving home, retirement and losing a spouse were all identified as crucial points in the maintenance of physical activity. At each stage a shift in social network occurs along with a shift in identity. These stages are recognised in a number of studies as time where drop-out is most likely. The implications for policy makers are clear:

• There is an urgent need for well-conducted qualitative research into attitudes to physical activity. This should investigate in depth the social and psychological barriers to taking part in sport and physical activity across the lifespan.

• Such research should be used to inform national policy-making on sport and physical activity, to inform the ‘culture shifts ‘to which almost all government documents refer.

• In the absence of such evidence-based policy-making we are likely to continue to see well-meaning policy statements from government that are not rooted in the realities of people’s lives.

3 Goals are Primary for Understanding Exercise Participation
The centrality of goals in behavioral pursuit has been identified within numerous theories of human behavior, across disciplines [10-13]. Goal theories posit that an individual is motivated to change their
behavior because they want to reduce a perceived discrepancy between their actual state and their desired state [10,14]. Carver and Scheier (1998, 1999), leading self-regulation theorists, said that goals create the frame through which a behavior is perceived and that behavior can be understood only by identifying the goals to which behavior is attached. Moreover, statistical modeling of behavior shows that the motivation individuals feel toward a behavior is partially channelled through the desire one feels toward their reason or goal for doing that behavior [12]. These evidence-based insights suggest that it is essential to study the goals that individuals strive to achieve through exercising if we are to understand how to promote sustainable exercise behavior.

Goals differ in level of abstraction, and are connected in a hierarchical manner. According to Carver and Scheier's (1990) theory of self-regulation there is a three-level hierarchy of goals (Figure 1). In this model, the focal goal represents the concrete goal intention, or what the individual is striving to achieve with their behavior - in this case exercise (e.g., decreased cholesterol, weight loss). After the focal level is the subordinate-level goal. This is the lowest tier in the goal structure. It represents the specific action for how individuals will achieve their focal goal (e.g., walking / exercising 30 minutes 5 days/week). Before the focal level is the superordinate-level goal. This goal is more abstract and represents the reason(s) why individuals strive for their focal goal (e.g., longevity, popularity). Investigating the different levels of exercise goals within the goal hierarchy might help us better understand how individuals have been socialized to pursue. Lack of motivation can broadly be explained by two orders of factors. First, as highlighted in the previous statistic, people may not be sufficiently interested in exercise, or value its outcomes enough to make it a priority in their lives. Many individuals experience competing demands on their time from educational, career, and family obligations, possibly at the expense of time and resources that could be invested in exercising regularly. Second, some people may not feel sufficiently competent at physical activities, feeling either not physically fit enough or skilled enough to exercise or they may have health limitations that present a barrier to activity. Whether it be low interest or low perceived competence, the physical activity participation data indicate that many people are either unmotivated (or a motivated), having

Figure 1: Goals Have Multiple Levels
no intention to be more physically active, or are insufficiently motivated in the face of other interests or demands on their time.

4 Socialization Influences Values and Goals
The manner in which professionals in the health care system characterize a behavior is also likely to influence how individuals perceive and construe that behavior. Exercise is also typically prescribed to patients within the health care system for its medical and health value [38]. When physicians recommend exercise to their patients it is usually discussed within the specific context of the need to diet and lose weight. Moreover, in recent years, there's been a movement and campaign by leading exercise and medical organizations to explicitly brand exercise as "a medicine". Because individuals learn about behavior within a cultural context it is crucial to understand how this socialization impacts which goals individuals strive to achieve through exercising. In addition to those who are unmotivated, another source of short-lived persistence in exercise behaviors comes from people who do express personal motivation to exercise regularly, yet initiate exercise behaviors with little follow through. Specifically, a significant percentage of people may exercise because of controlled motivations, where participation in activities like going to the gym or running regularly is based on a feeling of “having to” rather than truly “wanting to” participate. Controlled forms of motivation, which by definition are not autonomous (i.e., they lack volition), are predominant when the activity is perceived primarily as a means to an end and are typically associated with motives or goals such as improving appearance or receiving a tangible reward. One hypothesis then is that the stability of one’s motivation is at least partially dependent on some of its qualitative features, particularly the degree of perceived autonomy or of an internal perceived locus of causality. That is, the level of reflective self-endorsement and willingness associated with a behavior or class of behaviors should be associated with greater persistence. An utilitarian approach to exercise (and to exercise motivation), such as might be prevalent in fitness clubs or other settings where exercise is externally prescribed, could thus be partially responsible for the high dropout rate observed in exercise studies. In fact, the pervasiveness of social and medical pressures toward weight loss, combined with externally prescriptive methods may be ill-suited to promote sustained increases in population physical activity levels.

5 Self Determination Theory: Motivation regulating one’s behavior
In sum, large numbers of individuals are either unmotivated or not sufficiently motivated to be physically active, or are motivated by types of externally-driven motivation that may not lead to sustained activity. This highlights the need to look more closely at goals and self-regulatory features associated with regular participation in exercise and physical activity. Self-determination theory (SDT) is uniquely placed among theories of human motivation to examine the differential effects of qualitatively different types of motivation that can underlie behavior. Originating from a humanistic perspective, hence fundamentally centered on the fulfilment of needs, self-actualization, and the realization of human potential, SDT is a comprehensive and evolving macro-theory of human personality and motivated behavior. In what follows we will briefly describe key concepts formulated within SDT that are more relevant to physical activity and exercise.

First, SDT distinguishes between intrinsic and extrinsic types of motivation regulating one’s behavior. Intrinsic motivation is defined as doing an activity because of its inherent satisfactions. When
intrinsically motivated the person experiences feelings of enjoyment, the exercise of their skills, personal accomplishment, and excitement. To different degrees, recreational sport and exercise can certainly be performed for the associated enjoyment or for the challenge of participating in an activity. In contrast to intrinsic motivation, extrinsic motivation refers to doing an activity for instrumental reasons, or to obtain some outcome separable from the activity per se. For example, when a person engages in an activity to gain a tangible or social reward or to avoid disapproval, they are extrinsically motivated. SDT, however, conceptualizes qualitatively different types of extrinsic motivation that they differ in terms of their relative autonomy. Some extrinsic motives are relatively heteronomous, representing what in SDT are described as controlled forms of motivation. For example, externally regulated behaviors are those performed to comply with externally administered reward and punishment contingencies. Also controlled are extrinsic motivations based on interjected regulation, where behavior is driven by self-approval. Controlled forms of extrinsic motivation are expected within SDT to sometimes regulate (or motivate) short-term behavior, but not to sustain maintenance over time. Yet not all extrinsic motives are controlled. When a person does an activity not because it is inherently fun or satisfying (intrinsic motivation), but rather because it is of personal value and utility, it can represent a more autonomous form of behavioral regulation. Specifically in SDT, identified and integrated forms of behavioral regulation are defined as those in which one’s actions are self-endorsed because they are personally valued. Examples include exercising because one values its outcomes and desires to maintain good health [7]. Thus, in SDT, these different forms of motivation are conceptualized as lying along a continuum from non-autonomous to completely autonomous forms of behavioral regulation.

Table 1: Enhancing self-determined motivation

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<thead>
<tr>
<th>Need</th>
<th>Avoid</th>
<th>Provide</th>
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<tbody>
<tr>
<td>Autonomy</td>
<td>Overt control</td>
<td>Opportunities for students leadership</td>
</tr>
<tr>
<td></td>
<td>Lack of choices</td>
<td>Student choice (within class limits)</td>
</tr>
<tr>
<td></td>
<td>Standardized activities</td>
<td>Opportunities for initiative taking</td>
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<tr>
<td></td>
<td></td>
<td>Student opportunities for decision making</td>
</tr>
<tr>
<td>Competence</td>
<td>Criticism</td>
<td>Constructive feedback</td>
</tr>
<tr>
<td></td>
<td>Normative evaluations</td>
<td>Individualized feedback and goals</td>
</tr>
<tr>
<td></td>
<td>One level of challenge</td>
<td>Individually based challenges</td>
</tr>
<tr>
<td></td>
<td>Public comparisons</td>
<td>Modified skills and activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tasks allowing individual improvement and success</td>
</tr>
<tr>
<td>Relatedness</td>
<td>Solely individual activities</td>
<td>Cooperative group work</td>
</tr>
<tr>
<td></td>
<td>Unchanging groups</td>
<td>Groups of varying sizes and ability levels</td>
</tr>
<tr>
<td></td>
<td>Ability based groupings</td>
<td>Random groupings</td>
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Third, SDT introduces the concept of basic psychological needs as central to understanding both the satisfactions and supports necessary for high quality, autonomous forms of motivation. Specifically SDT argues that there are basic psychological needs for autonomy, competence, and relatedness, all of which are conceived as essential and universal nutriments to psychological health and the development of internal motivation. Satisfaction of these basic needs results in increased feelings of vitality and well-being. Like any other activity, engaging in sports and exercise can be more or less conducive to having one’s psychological needs realized. For example, experiences of competence
vary upon success or failure at challenging physical tasks or as a function of feedback from, for example, fitness professional. Perceptions of personal connection (relatedness) with others (e.g., fellow members of a fitness class or weight loss program) can vary greatly as a function of the interpersonal environment. Feelings of autonomy (versus feeling controlled) differ as a function of communication styles in exercise settings. According to SDT, in fact, need fulfilment in any context is closely associated with the characteristics of that social milieu, that is, whether important others support the needs for autonomy (e.g., take the perspective of the client/patient, support their choices, minimize pressure), relatedness (e.g., create an empathetic and positive environment, show unconditional regard), and competence (e.g., limit negative feedback, provide optimally challenging tasks). The concept of need support is thus thought to largely explain individual differences in the development and enactment of motivation across the lifespan. Consequently, the design of health behavior change interventions that enhance satisfaction of participants’ basic needs is a matter of much interest in SDT studies, including in the area of exercise and physical activity.

6 Differentiation of Intrinsic & Extrinsic Motives Goal contents

More recently, goal contents have also been explored from an SDT perspective in relation to a range of behaviors, including exercise. It should be noted that most authors have referred to goal contents in exercise contexts as motives, or more specifically participation motives. Operationally both terms are identical and we will use them interchangeably herein. Whereas intrinsic motivation and the various forms of extrinsic motivation represent the regulatory processes underlying a behavior, motives or goal contents are the outcomes that individuals are pursuing by engaging in the behavior. Goal contents are differentiated according to the extent to which their pursuit is likely to satisfy basic psychological needs. Specifically, SDT distinguishes intrinsic goals (e.g., seeking affiliation, personal growth, or health) as those thought to be more closely related to the fulfillment of basic psychological needs, from extrinsic goals (e.g., seeking power and influence, wealth, or social recognition) that are thought to be associated with “substitute needs” which are neither universal nor truly essential to well-being and personal development. Factor analytic studies have borne out this theoretical distinction, and a number of studies have shown the predicted differential consequences of intrinsic versus extrinsic goal importance Within the domain of exercise and physical activity, extrinsic goals (e.g., when exercise is performed primarily to improve appearance) or intrinsic goals (e.g., to challenge oneself or to improve/preserve health and well-being) can clearly be distinguished. It should be noted that different goals or motives towards a given activity often naturally co-exist in the same person, some being more intrinsic, some less. Similar to what occurs with motivational regulations (which can have more or less autonomous elements, see more below), it is the relative preponderance of certain types of motives versus others which is thought to determine more or less desirable outcomes.

7 Creating Motivational Climates in Physical Education: Methods

Clearly, competence development is central to physical education as are both autonomy and relatedness. Research regarding the optimal design of learning environments comes to similar conclusions regardless of the theoretical framework (i.e., SDT or Achievement goal theory) examined (Deci & Ryan, 2000). By considering the theoretical basis of motivation (i.e., SDT, and Achievement goal theory), educators can structure the class environment to enhance youth motivation. A number of
social factors (e.g., autonomy-supportive or controlling and a mastery or performance oriented teaching styles) can affect the various types of motivation via the satisfaction of the needs for competence, autonomy, and relatedness. Social factors that satisfy these needs will promote self-determined forms of motivation (see Table 1). In contrast, social factors that undermine these needs will result in a motivation. Recently, research has found that youth who perceive coaches to espouse mastery-avoidance (i.e., focus on concern about not performing as well as a previous performance) and performance avoidance (i.e., focus on not being out performed by other) adopt these goals for themselves and in turn have lower levels of self-determined motivation (Conroy, Kaye, and Coatsworth, 2006), suggesting that working to enhance mastery goals and a mastery climate can also serve to enhance student motivation.

Table 2: TARGET structures and strategies

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<tr>
<th>Structure</th>
<th>Strategy</th>
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| Task      | Offer challenging and diverse activities  
Provide opportunities for personal challenge  
Encourage and assist in individualized goal setting  
Individualize activities according to developmental needs  
Avoid standardized activities |
| Authority | Encourage students to be involved in decision-making  
Create opportunities for students to experience leadership  
Encourage students to self-manage  
Provide students with choices within and between activities  
Avoid mandating student processes |
| Recognition | Provide feedback based on students' progress individually  
Recognize individual progress, effort, and improvement  
Ensure that all students have opportunities to experience success  
Avoid public social comparisons |
| Grouping | Provide opportunities to work in groups of mixed ability  
Vary the size of groups  
Create opportunities for cooperation within groups  
Promote peer interaction  
Avoid groups formed on the basis of ability |
| Evaluation | Involve students in self-evaluation and review  
Make evaluations meaningful  
Develop performance measures based on effort, improvement, persistence, and progress towards individual goals  
Avoid evaluations based on winning or outperforming others |
| Timing | Design lesson plans that recognize different development rates  
Adjust time requirements to individual capabilities and interest  
Allow students to choose practice length  
Provide sufficient time before moving on to the next stage in skill development  
Avoid allocating mandated and uniform learning periods |

Following some early work in the 1990s, there has been a resurgence of research in recent years on the role of exercise participation motives or goal contents. The rationale for this is that some motives (e.g., affiliation, skill development) are more intrinsically-oriented and likely to be experienced as autonomous whereas others (e.g., body-related motives such as weight or appearance management) are more extrinsic and likely to be experienced as internally controlling. Studies show a consistent
positive association between more intrinsic motives and exercise. Findings for fitness/health and body-related motives are mixed.

For fitness/health, although no studies found a negative association, an absence of association is more frequently found than positive associations. This might reflect different ways in which fitness/health motives have been operationalized. Health/fitness motives can reflect health pressures or threats (e.g., medical advice) or be associated with drives for thinness or an attractive image. Yet health and fitness motives can also reflect more positive concerns such as general health promotion, increasing physical strength for performing daily activities, reducing pain (e.g. lower back pain or discomfort in joints), or feeling more energy and vitality.

8 Conclusion

This paper demonstrated the utility of adopting an achievement goal approach to enhancing motivation in the context of physical education. The study took the important step of translating an organized and coherent set of strategies into guidelines for instruction and the organization of the physical education context. It is important to recognize that as pertinent as it may be to provide a working taxonomy of actions that may influence the perceived ego- or task-involving nature of the physical education context, implementing any future intervention programs will be greatly facilitated by operational detail that will guide the teacher in selecting a strategy. Critically, in an achievement activity in which the overwhelming emphasis is on normative standards of performance, physical education teachers need to have resources available that will guide them in their attempts to foster task involvement. Research from an achievement goal perspective, therefore, suggests that in order to foster adaptive achievement striving, physical educators should be more interested in guiding children to focus on personal improvement and effort rather than on immediate normative performance. Physical education professionals must understand motivation and apply strategies to enhance motivation in PE if they are 'true' professionals. PE teachers should seek to promote class structures that are autonomy-supportive and mastery-focused, as these dimensions facilitate self-determined motivation through the psychological mediators of autonomy, competence, and relatedness. Several sport researchers have experimentally manipulated these TARGET structures to create mastery and performance goal groups. Interventions addressing TARGET structures can be effective at enhancing
youth sport experiences. It is important to note, as Markland and Ingledew pointed out, that holding controlled motivations is not necessarily problematic, motivationally speaking, as long as self-determined regulations are also held. It has been suggested, for example, that a person may strive for a physically appealing body (an “extrinsic” motive) because her partner praises her good looks (controlled motivation) and at the same time she may personally value a fit appearance (autonomous motivation). Thus, although intrinsic goals tend to be pursued for autonomous reasons and extrinsic goals tend to be pursued for controlled reasons [81], the content of, and reasons for pursuing aspirations can be empirically crossed. Therefore, exercise promotion programs should take care not to explicitly or implicitly denigrate appearance/weight motive or any other motive for exercising, which may lead individuals to perceive that their autonomy is threatened, with consequent defiance and dropout. Instead, acknowledging the validity of individuals’ motives in a need-supportive context may ultimately promote movement away from controlled regulations toward more autonomous commitments to be active. To this end, the instructional practices and strategies briefly discussed above may assist physical educators in their efforts to construct task-involving physical education contexts.

9 References