

MOTIVATION **Implications for** **Coaching** **& Teaching**

Albert V. Carron

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Implications for Coaching & Teaching

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PREFACE

When individuals carrying out research and teaching sport psychology at the college level are approached by students, teachers, parents, coaches, and administrators of sport programs for advice or assistance, one of the most frequently requested topics is motivation. The questions may take many forms. For example, the following are typical:

- Why are so many kids quitting swimming at approximately 15-16 years of age?
- What would you recommend to prevent my athletes from going stale?
- How can I keep my team motivated?
- My son seems to have all the potential in the world but he just doesn't care. What can I do?

The list could go on and on. But, whatever specific form these questions take, their focus is essentially the same — how can motivation be developed, enhanced, and/or maintained? This, of course, is a fundamental concern. Certainly, motivation is a critical corner-stone for achievement in all challenging endeavors including sport, physical education, and physical activity. Thus, for the sport psychologist who wishes to assist the coach, teacher, or athlete, motivation is a natural place to begin.

But, this is easier said than accomplished. Motivation is a highly complex phenomenon. As Littman (1958) pointed out “*There are many different kinds of motivational phenomena*. It is simply not the case that the analysis of one kind of motivational phenomena provides us with the analysis of all, or even a substantial portion, of other motivational concepts. Motivation is not a unitary phenomenon in the sense that all motivational things have the same properties and enter into the same laws in the same way.”

This complexity has presented me with a number of dilemmas in terms of my dealings with coaches, athletes, and teachers. The first dilemma relates to what can be described as a *fish in a fish market phenomenon*. Because I like almost all types of seafood, I find it difficult to choose what to buy when I go shopping. In the same manner, because motivation is not a single phenomenon, it has made little sense to me in my discussions with interested persons to single out one aspect or motivational component and emphasize its preeminence to the exclusion of the others. Each of the fish in the fish market has its virtues and limitations. Which one should be singled out for the fish fry?

A second dilemma I've experienced can be described as a *bricks in the brickyard phenomenon*. The bricks in a brickyard become most useful when they are organized together into a wall, or driveway, or some overall structure. In a similar fashion, because each of us has a limited ability to process and use information, and coaches and teachers are no exception, it has also made little sense to me in my discussions to simply provide a comprehensive list of motivational techniques without some meaningful framework to tie them all together. Otherwise, the information simply

represents another brick for the instructional brickyard. To be truly useful, information on motivation, should be subdivided and packaged into meaningful units or categories. Hopefully, then, the units or categories will represent small, more manageable informational packages. Also, the relationships between these units can be clarified.

The final dilemma I have been faced with can be referred to as the *ivory tower phenomenon*. When I was initially approached years ago by a coaching association to speak to their membership about motivation in sport, I was repeatedly (and politely) warned to avoid an ivory tower approach — to make sure that my material was practical, was useful, was applied. A legitimate request certainly. However, as a university professor committed philosophically to the belief that coaching and teaching in sport and physical activity will only develop fully through the establishment and implementation of a sound, research based foundation, I was certainly loathe to short circuit research and simply rely on my experiences.

In an attempt to resolve these dilemmas, I developed a lecture package, for my undergraduate class and talks with coaching groups, a package which also forms the basis for the present textbook. In that lecture package (and this text), I have attempted to accomplish three things; (1) to provide a comprehensive picture of the more important motivational factors which influence performance in physical education, sport, and physical activity, (2) to provide a frame-of-reference within which these motivational factors can be more readily understood, and (3) to draw upon research findings as the basis for any claims or generalities advanced.

This book is intended for advanced undergraduate and graduate students pursuing a specialization in coaching theory and practice, for coaches, for teachers, and for the participants themselves. Insight into the psychology of motivation is beneficial for each of these groups.

I am indebted to my colleagues, Dr. Craig Hall and Dr. Chella Chelladurai for reading and reacting to the manuscript. It is extremely difficult to proofread something you have rewritten and reread on numerous occasions. You literally read sentences and paragraphs, not individual words. Thus, Craig's and Chella's comments were extremely helpful.

Finally, the reader will understand and appreciate that even someone writing about motivation needs help with motivation — particularly on those days when progress is slow or when the whole project seems to be a mistake. Over the past two years that this book has been in preparation, there have been a number of those days. I have been fortunate during those bleak periods to have the support of what my sociologist friends refer to as "significant others." To Dana, to Brett, to Pat, to Chris, to Wendy, and to Jeff, Thanks.

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CHAPTER 1

Introduction

On a bright, sunny summer day, one person may choose to play tennis, another to play golf, while a third may sit by a pool and read. Or, during a marathon, one competitor may choose to push to the point of exhaustion and physical collapse while another, feeling discomfort, may choose to ease off on the pace and finish easily. And, finally, one basketball player may choose to hustle consistently throughout a game or practice whereas a teammate may decide to do so only sporadically.

The phenomenon used to account for these diverse individual behaviors is called motivation which is a derivative of the Latin word “*movere*” meaning “to move.” In modern psychology, motivation is used to represent the reasons why people select different activities, persist in them, and carry them out with intensity. In the language of science, motivation is referred to as a *theoretical construct*. That is, it is not directly observable or measurable so its presence can only be inferred indirectly from behavior.

The first anecdote presented above helps to illustrate the selectivity dimension of motivation. The three individuals each had at least two alternatives or choices but they choose the one they did because that alternative satisfied some underlying motive, need or desire — in short, the three individuals were motivated to play tennis, golf, or to read.

The second anecdote provides an example in which the persistence dimension of motivation is illustrated. The two athletes differed in their ability to persist in the difficult, exhausting marathon. This persistence might have been a product of many different factors. For example, the underlying cause could have been differences in personality (e.g., one may have had an excessively high need for achievement, the

other, only moderate), aspirations and goals (e.g., one may have set a goal of simply finishing the race whereas the second may have wanted to do so within a specific time limit), or incentives (e.g., one may have been striving for a financial reward while the second may only have wanted the personal satisfaction of completing the event), or some combination of these. Whatever the cause, however, the differences in the behavior of the two runners are assumed to be due to differences in motivation.

The final anecdote provides an example of the intensity dimension of motivation. Intensity, of course, can vary from sleep at one extreme to excessive excitement, arousal, activation, and energy at the other. The causes of motivational intensity are varied so it would be necessary to gather further information to determine why the two players differed. Nonetheless, the differences in behavior are considered to be the result of differences in motivation. One player is highly motivated and, therefore, hustles continually; the other is only moderately motivated and so only hustles periodically.

THE IMPORTANCE OF MOTIVATION

There are only two powers in the world, the sword and the spirit. In the long run the sword will always be conquered by the spirit.

Napoleon

Coaches, teachers, athletes, and sport psychologists view motivation as the single most important attribute for effective performance. But, as Alderman (1978) has pointed out “motivating the young athlete involves far more than just encouraging him with praise or punishing him with extra laps after practice. And with the young, amateur athlete, far more than just using *fear* as is done almost exclusively with professional athletes. It requires knowing what are the most important *factors* influencing the motivational levels in young people and it requires knowing *how* to put this knowledge to its best use” (p. 49).

But knowing the motivation factors and knowing how to put them to best use is easier said than done. Coaches and teachers who have actively tried to influence the motivation of performers realize that there are numerous techniques and strategies from which to choose. And, researchers consider motivation to be one of the most complex phenomena in psychology. A good illustration of this complexity is provided by the following comprehensive definition set out by Littman (1958):

“Motivation refers to processes or conditions which may be physiological or psychological, innate or acquired, internal or external to the organism which determine or describe how, or in respect of what, behavior is initiated, maintained, guided, selected, or terminated; it also refers to end states which such behavior frequently achieves or is designed to achieve whether they are conditions of the organism or environment; it also refers to the behavior engaged in, or aspects of that behavior, in respect of its organization, occurrence, continuation, reorganization, or

termination with regard to past or present or future organic or environmental conditions; further, it refers to the fact that an individual will learn or remember or forget certain material, as well as the rate or manner in which these processes occur and the ease or difficulty with which they are altered, as well as to some of the processes or conditions which are responsible for this behavior; similarly, it determines how and what perceptual and judgmental activities and outcomes will occur, as well as some of the conditions and determinants of such activities and outcomes; similarly, it also refers to the fact of and the determinants of the occurrence and fate of affective process; finally, it describes and accounts for various individual differences which appear in respect of the various behaviors, processes, conditions, and outcomes referred to above. Motivation refers to any one or more of the behaviors, conditions, processes, or outcomes in any combinations” (p. 136-137).

After looking over this definition, a typical reaction might be, “Where does motivation begin; where does it end; can I make any practical sense out of it?” It is certainly obvious that motivation is not a single, simple concept. And therefore, dealing with it, translating motivational theory and research into practical terms for application (as I have tried to do in this textbook) poses a number of difficult problems. These can be referred to as *the fish in the fish market phenomenon*, *the bricks in the brickyard phenomenon*, and *the ivory tower phenomenon*.

ISSUES IN TRANSLATING THEORY INTO PRACTICE

Those who are enamored of practice without science are like a pilot who goes into a ship without a rudder or compass and never has any certainty of where he is going.

Leonardo De Vinci

The first major dilemma which arises when research is translated into practical information, the *fish in the fish market phenomenon*, is tied in with the issue of where to begin, what motivational phenomena to emphasize, and what to ignore if motivational research is converted into practical terms for a coach or teacher. As Littman emphasized in his definition which was presented above, motivation is not a solitary, simple thing. There is a wide variety of motivational fish in the fish market and all have some attractive features. Consequently, it makes little sense to single out one and emphasize its use to the exclusion of all others. So, if we continue with the fish analogy, it also makes little sense to single out one motivational technique, such as token rewards, and suggest that it is *the* answer for all coaches or teachers. Awareness of the majority of motivational phenomena is necessary before informed choices can be made concerning which is better. Information on a number of motivational phenomena is provided in this text.

If it is taken as an accepted fact that a variety of different motivational techniques

should be set out for the coach and teacher, the second dilemma, the *bricks in the brickyard phenomenon*, then becomes an issue. Each of us has only a limited ability to take in and use information. We can only retain a certain amount. For example, the number of digits that we are able to recall after one presentation is around seven (Miller, 1956). However, digits can be combined together into pairs. If this is the case, we again are only able to recall about seven. But, those seven pairs now represent a total of 14 digits.

If the facts about motivation are viewed as bricks in a brickyard, they are most easily recalled when they are organized into some overall, general structure. In the case of bricks, that overall, general structure might be a wall, house, or driveway. In the case of motivation for sport and physical activity, the overall general framework might involve looking at motivation as a product of personal and situational factors, some of which can be manipulated or influenced, some of which cannot. It should be obvious that there are probably a number of other ways to look at motivation — to organize the bricks in the brickyard. But, some organization is essential if we hope to retain a substantial amount of the information available. I have attempted to do this in this text. The organization used is presented in a subsequent section, “A Model for Motivation”.

A final dilemma, the *ivory tower phenomenon*, is related to the question of how much we should (or need to) draw upon research to support our practices. In many instances, coaches and teachers have been uneasy with researchers and their discussions of research findings because that research has been considered to be ivory tower in nature — to be unrelated to events going on in the real world. In other instances, research results have seemed to simply confirm the obvious — to be the scientific equivalent of proving that birds can fly. Alderman (1978) talked about this second point when he stated:

“Good coaches know, or sense, what is important in motivating young athletes and they know what are the most important techniques for doing it. Though such knowledge comes mainly from experience, invariably, upon examination, the things they do are also theoretically sound and consistent with the results from scientific research. It is our contention, in fact, that the gap between what the scientific or theoretical literature tells us and what good coaches do in practice is virtually non-existent” (p. 149).

So, the question is how much should we (or do we need to) use research as a basis for arriving at decisions about the role of motivation in sport and physical activity? There is no doubt that, in many instances, the gap between what science has discovered and what good coaches have learned to do through common sense is virtually non-existent. But, there is also no doubt that if coaching and teaching in sport and physical activity are to develop fully, they must do so through the development and implementation of a sound, research-based foundation. I have drawn on research for the conclusions set out in this textbook. Common sense may be

essential in our day-to-day activities but it is never an adequate substitute for the scientific method.

COMMON SENSE VERSUS THE USE OF RESEARCH

To most men, experience is like the stern lights of a ship which illuminate only the track it has passed.

Samuel Taylor Coleridge

Kerlinger (1973) highlighted why experience is never an adequate substitute for research when he discussed the differences between science and common sense. His discussion is worth repeating here. One of the significant differences Kerlinger talked about is the way in which common sense and scientific theories are developed. Whereas a scientist systematically builds theoretical models, tests them for internal consistency, and then subjects them to analysis, the person in the street establishes theories concerning the way things are in a more relaxed, looser fashion. For example, some coaches hold to the theory that punishment is a highly effective motivator. In fact, it is assumed by many that punishment is the equivalent of rewards — it is only common sense. However, a significant body of research evidence now supports the viewpoint that punishment can impede learning and performance, that it is not the equal of rewards.

A second difference between science and common sense lies in the way they test their theories. Scientists systematically and repeatedly test their theories in a continuous search for alternative explanations for why things are as they are. In fact, it has been suggested that science only advances by disproof, that hypotheses are set out so that they can be disproven (Landers, 1983; Popper, 1959). The layperson, on the other hand actively seeks out verification of his/her theories. Thus, for example, people holding stereotypical “theories” about minority groups, selectively use positive examples to verify their beliefs while ignoring discrepant evidence.

A third difference lies in the concept of control. If a special condition is introduced, some reference point, comparison group or baseline measure is necessary in order to establish the impact of that condition. This is known as control. A scientist uses control; the layperson typically does not. If a coach believes a particular technique is effective, for example, he/she may introduce it to the whole team. Then, if improvement is evident at some later stage, this improvement will be attributed to the effects of the technique. A scientist, on the other hand, would be interested in determining whether some other factor or factors were equally responsible. Could the improvement be simply a natural consequence of practice? Maturation? The athletes expectations that they should get better? There is no way of answering these questions without some form of experimental control.

Another difference between science and common sense is that the former is continually involved in the search for relationships. A scientist might ask, "If I.Q. is related to school achievement, what other factors are associated with I.Q.?" "How can I.Q. be enhanced?" "What other factors predict school achievement?" And, so on. In contrast, the layperson is usually content with simple cause-effect relationships.

A final difference between science and common sense, lies in the tendency to use metaphysical explanations; explanations which cannot be tested. For example, a coach's suggestion that "It was God's will" or "It was in the cards" would be a metaphysical type of explanation. The scientist would avoid these. This is not to say that the metaphysical explanation is not correct; only that scientists only concern themselves with events and situations which are observable and measurable.

A MODEL FOR MOTIVATION

The improvement of understanding is of two ends: first, our own increase in knowledge; secondly, to enable us to deliver that knowledge to others.

Locke

What the preceding discussion has intended to highlight is that, first, research based conclusions are essential; second, motivation is complex and, consequently, no single aspect is exclusively useful; and, therefore, third, a frame-of-reference provides obvious advantages in the communication of ideas. First, complex issues can be simplified and more readily explained and understood. Secondly, it is possible to more readily draw assumptions about how the individual components are related to each other. And, finally, it is easier to determine what is known and unknown about the topic and what possible directions subsequent research might take.

A framework that is appropriate for motivation in sport and physical activity is presented in Figure 1.1. One aspect of this model is that it incorporates the long accepted view in psychology that behavior is a result of contributing factors from within the individual as well as contributing factors from within the individual's situation (environment).

A second aspect of this model is that it acknowledges that many things which contribute to individual motivation — within the individual and within the situation — are not directly under the coach's or teacher's control. For example, two factors within the sport situation which can contribute to a participant's motivation are the presence of an audience and the type of practice set out. A coach has little or no control over whether an audience is present or how loud and supportive it is. But, the coach has very direct control over the type of practices which are held. Similarly, two personal factors (factors within the performer) which contribute to an overall level of motivation are the personality trait of need achievement and the degree of intrinsic motivation present. A individual's personality is very stable and changes minimally; therefore, the teacher or coach have little or no control over it. However, it is possible

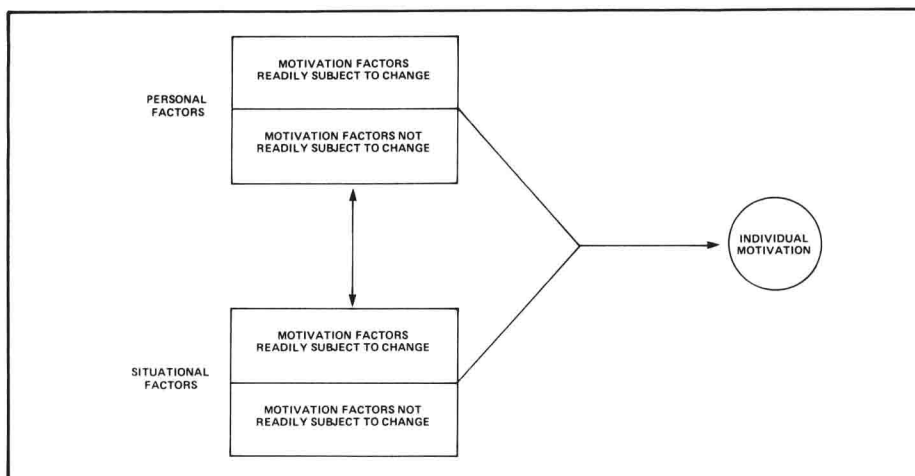


Figure 1.1

A Model for motivation in sport and physical activity.

to have a direct impact on the level of intrinsic motivation of the participant.

What this frame-of-reference serves to emphasize is that the sources of potential motivation for the participant in sport and physical activity are numerous and complex. And, the coach and teacher have an impact on selected aspects only. Thus, the task of the teachers and coaches is, first, to be aware of the potential sources of motivation, especially those over which they can have some influence. Secondly, the coach and teacher must be acknowledgeable about the relative effectiveness of each. Finally, decisions must be made regarding where and when each specific technique might be put to best use. An attempt is made to help in these decisions with the present text.

PROLOGUE

*In creating, the only hard thing's to begin. A grass blade's no easier
to make than an oak.*

James Russell Lowell

The text is composed of six chapters. In the first (or present) chapter, the frame-of-reference which provides a foundation for the remainder of the text is introduced and explained. The subsequent four chapters then deal with the various components of the frame-of-reference set out in Figure 1.1. Thus, for example, Chapter 2 contains a discussion of those major situational factors contributing to motivation over which the teacher and coach have some control. Various factors which have the potential to contribute to the individual's overall level of motivation are introduced, the research findings pertinent to each factor are outlined, and practical

implications for the coach and teacher are then set out. An identical format is adopted in Chapter 3 (situational factors over which the coach and teacher have no control), Chapter 4 (personal factors over which the coach and teacher have some control), and Chapter 5 (personal factors over which the coach and teacher have no control). The final chapter provides a summary or synopsis of motivation in sport and physical activity.

SUGGESTED READINGS

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CHAPTER 2

Situational Factors Readily Subject to Change

Coaches and teachers must be aware that the situations into which participants are placed can have a powerful influence upon their level of motivation. For example, from an athlete's perspective, all situations in sport — practices, games, the locker room, the field, arena, or auditorium — are motivating. This motivation is made up of two components (Alderman, 1978; Martens, 1975).

One of these can be referred to as the *objective* situation. As Alderman (1978) noted "purely objective stimuli in an actual situation can serve to motivate athletes. Physical stimuli such as the site or the facilities themselves act on an athlete, e.g., the shot and the circle to a shotputter or a swimming pool to a swimmer or a football stadium to a football player. Social stimuli such as the presence of spectators, other athletes, opponents, officials, etc. are objective, actual stimuli that contribute to increased arousal. Or the task itself (and all the feedback an athlete receives from his performances) has the potential to motivate an athlete simply because it is a natural requirement in the situation" (p. 138).

A second facet is the *subjective* situation — the perception the individual holds of the situation, its nature and significance. Two athletes might arrive at Yankee Stadium for a baseball game, for example. If one has played there for four previous seasons while the second is doing so for the first time, it is probable that the situation would have a different motivational impact on each of them.

It should be obvious that some aspects of the situation, both objective and subjective, cannot be influenced, while others can. In this chapter, the potentially motivating factors in the situation that can be manipulated are discussed. These include the use of token rewards, goal setting, variable practice sessions, social reinforcement, and specific coaching behaviors.

TOKEN REWARDS AS A MOTIVATOR

Teaching is the arrangement of contingencies of reinforcement under which students learn. They learn without teaching in their natural environments but teachers arrange special contingencies which expedite learning, hastening the appearance of behavior which would otherwise be acquired slowly or making sure of the appearance of behavior which would otherwise never occur.

B.F. Skinner

A fundamental assumption in education, industry, or sport is that rewards can be used to influence behavior — by withholding or providing inducements to the individual, it is possible to elicit, modify, or eliminate specific behaviors. Not surprisingly, this viewpoint is almost as old as psychology itself. For example, it formed the basis for Edward L. Thorndike's (1913a; 1913b) theory of learning (commonly referred to as connectionism). The role of rewards also forms the cornerstone of most of the major learning theories in psychology — Hull's (1943) drive theory and Skinner's (1938) behaviorism theory, for example. Today, this general topic of study is referred to by a number of names: behavior modification, operant psychology, token economies, and contingency management.

In sport and physical activity, the primary method of influencing the behavior of athletes through rewards is referred to as *contingency management* where a contingency is a relationship between a behavior and its consequences (Siedentop, 1978). As Siedentop (1978) suggested:

"It is the management of these relationships that is important for improving athlete productivity in practice settings. Coaches, or coaches and athletes working together, decide on what has to happen during practices. Athletics is full of potential rewards that can be used as incentives. The trade-off between practice performances and the earning of rewards is then established and a system to monitor practice performance is perfected. Those athletes that meet the contingencies earn the rewards. Those that don't perform in practice go unrewarded" (p. 49-50).

Studies outlining those instances where contingency management programs have been successfully implemented are numerous. Those studies lead to a number of propositions which have applicability for the coach and teacher.

PROPOSITION: Undesirable behaviors can be eliminated through the use of token rewards.

In a classroom or gymnasium situation, the disruptive behaviors of a single individual or the total group can ruin the learning environment. The use of token rewards such as candy, decals, stars, trinkets, and access to special treatment in the form of free time, special events, special privileges, and so on can result in the elimination of these undesirable behaviors when other approaches have failed. For example, O'Leary, Becker, Evans, and Saudargas (1969) reported on a project in which a second grade teacher successfully used token rewards to control disruptive