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The Thrill of Victory!

Risk-Taking Attitudes in Sport

ASTM Committee F-8 on Sports Equipment and Facilities is concerned with setting standards for sports equipment and facilities. While doing this job, it is important to keep in mind several questions regarding sport:

- What motivates athletic activity?
- What is the nature of the risks of injury faced by the athlete in different sports?
- How can we reduce these risks without interfering with the rewards that motivate the athlete?

Let's take a look at these questions.

Athletic Motivation

The question of athletic motivation is far from settled in the psychology of sports. There are, however, some interesting hypotheses:

- Psychopathology;
- Aggression;
- Camaraderie and team togetherness; and
- Sensation seeking.

The different hypotheses fit some sports better than others. For example, football can be seen as allowing for expression of aggression, team togetherness and sensation seeking.

Psychopathology

We are inclined to resort to this hypothesis when we see an athlete risking life and limb for his sport, and we say to ourselves, "He must be nuts to jump out of that airplane, or down that ski jump, or hang from the cliff face."

In using this type of explanation, we might invoke such concepts as Freud's "death wish," or "supermasculinity" (sparked by feelings of inadequacy), or "counter phobic activity" (attempts to deny fear by engaging in the feared activity) or other possible concepts from psychology.

These explanations usually fail (except, perhaps, in rare cases) when we psychologically examine athletes who engage in risky sports and find that they are quite well adjusted. These athletes are found to be emotionally stable, intelligent, adaptable, resourceful and energetic. Their risky behavior is found not to be a confrontation with death, but to be exhilarating, stimulating and an inherently sensual experience.

Aggression

Konrad Lorenz[1] has postulated that man is an inherently aggressive animal and that such activities as war and aggressive sports stem from this motivation. Lorenz's instinct hypothesis is quite controversial, but the fact that man engages in hostile behavior cannot be denied. Given this, it is likely that such sports as football, hockey, boxing, and others do indeed express this aggressive tendency.

Team Togetherness

Lionel Tiger and Robin Fox,[2] two anthropologists speculating on the evolution of human behavior, think that man as hunter has been selected for the ability and desire to function as part of a team. If we think of hunting large animals, it is clear that a team of men is more likely to be successful than an individual with a solitary preference. Millenia of such a demand for team functioning would have weeded out the solitary individual and led to the survival of the team player. Tiger and Fox contend that the tendency to be a team player is expressing itself in current human behavior in the tendency of males (and more recently, females) to be involved in team sports, corporate activity, clubs and team hunts.

Sensation Seeking

The finding that sports activity is exhilarating, stimulating and inherently sensual, suggests that sport is expressing a sensation-seek-

ing tendency. Although other motives may be involved, such as aggression, team camaraderie and even psychopathology, sensation seeking is possibly the most prominent motivation for sport.

Marvin Zuckerman and his associates[3] have explored this type of human motivation. They note that people vary along a dimension of conservation at one end to sensation seeking at the other. The conservative relishes the status quo, is unhappy with change, and avoids excitement. The sensation seeker, on the other hand, relishes new experiences, intense stimulation and gets bored easily. Further research by Zuckerman and his associates found that sensation seeking was expressed in a number of somewhat independent ways: thrill and adventure seeking; experience seeking (seeking novel experiences); disinhibition (seeking excitement by throwing off some of the constraints of society via drugs, gambling and unconventional sex). These people are also inordinately susceptible to boredom. They get restless and dislike repetition and routine activity.

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This sensation-seeking tendency has been shown to influence interests, career choice, and, probably, choice of athletic activity.[4]

An essential element of sensation-seeking activity is the exhilaration and excitement associated with risky activity. Challenge, high levels of stimulation and risk appear to be the major attractions of sports. In many cases, there is a definite possibility of severe and catastrophic injury. The reckless sensation seeker, as described by Frank Farley,[5] is more likely to get injured than the more cautious one.

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Risks and Injuries

An estimated 17 million sports injuries occur yearly among American athletes.[6] There are an estimated one million high school football injuries yearly. Of this total, there will be approximately 10 football fatalities.[7] Almost one in two collegiate football players will suffer an injury severe enough to result in lost playing time.[8] One-third of the nation's 15 million joggers will sustain a musculoskeletal injury yearly.[6] Among habitual runners, lower extremity injury will appear at a rate of approximately 50 percent yearly.[9] One thousand of the 10,000 spinal cord injuries that occur annually are attributed to diving from varied heights into pools and natural bodies of water.[10] Approximately one out of 20 persons who attempts to climb a Himalayan peak will suffer a fatal injury.[11] These data are drawn from the growing body of sport epidemiology research. This work has already proven its worth.

Research by the National Center for Catastrophic Sports Injury Research[7] in identifying the frequency and circumstances of serious injury has prompted specific changes in sports that have led to a decrease in injury rates.

While a "blown out" knee is not fatal, it can mean "death" in an instant to an athletic career nurtured and developed over many years and countless hours of work. Recognizing the tremendous emotional and financial costs of sports injuries, the National Institute of Arthritis and Musculoskeletal and Skin Diseases has designated sports injuries as a major health issue.[6]

Prevention of Injuries

While serious injury is far from a foregone conclusion in sports, danger is ever-present,

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and some sports clearly carry more danger than others. But to take away all the danger is not only impossible but undesirable. Risk is an inherent part of sports. Take that away and the pursuit of excellence is undermined and the joy and exhilaration stolen from sports. Nonetheless, severe injury is cause for grave concern. All involved with sports have a responsibility to limit the occurrence of injuries—and, when it occurs, to limit its impact.

A better understanding of injury has led to efforts in prevention.[12] Risk of injury is influenced by the quality of equipment and facilities, rules and expectations regarding play and the athlete's risk-taking attitudes. Successful preventive approaches demand multidisciplinary effort and call on the expertise of a wide range of sport professionals. This includes not only those in the sport sciences and medicine but also sports governing bodies and equipment manufacturers.

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Scientists, manufacturers, users, members of academia and the U.S. government come together for the development of safety and performance standards for materials, products, systems and services in ASTM. It has an established committee, F-8, for the study of sports equipment and facilities. Much recent effort has been directed to the design and use of headgear in order to decrease head injury. Additional work is under way on artificial and natural playing surfaces, ice hockey facilities, fencing weapons and more. The diverse programs reported in this issue illustrate the potential for effective multidisciplinary efforts. The benefit of improvements in equipment and facilities (as opposed to other methods such as rule changes) is that safety is increased without modification of the basic nature of the sport that athletes value so highly. **SN**

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