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Adventure and the Flow Experience

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It has not been easy for the human race to survive. Through millions of years our ancestors have been challenged by all kinds of trials and tribulations: ice ages, saber-toothed tigers, droughts and diseases. If we are still here, it is because they were able to develop a superb array of survival tools. Some of these are well-known: our complex brain, our nimble fingers, our ability to cooperate, and of course the various technologies these made possible, ranging from the taming of fire to the splicing of genes. But there is one advantage we know less about, even though it must have been indispensable to our ancestors in their long struggle to survive in a mysterious and dangerous environment. This advantage is the enjoyment we derive from exploring the unknown and confronting the unexpected.

During the course of evolution, we have learned to enjoy those activities that are necessary for individual survival and the reproduction of the species. Human life would have disappeared long ago from earth if we did not derive pleasure from food and sex. Physiological rewards have been built over time into our bodies so that we may feel good when we do what needs to be done. But man does not live by bread alone. To survive in an unpredictable and dangerous environment, human beings must also enjoy a certain amount of novelty and danger.

And this is indeed the case. Some day we shall be able to document exactly the physiological benefit that "adrenaline rushes" provide rock climbers or sky divers, or the release of endorphins that a "runner's high" brings

to the nervous system of athletes. In the meantime, even though we lack an understanding of the biological mechanisms, it is quite clear that facing the challenge of the unknown is generally felt to be pleasurable by most people. The "spirit of adventure" is not dead, and it must have been strong and healthy through the endless stretches of nameless centuries in which our ancestors struggled to gain a foothold on the earth.

In our studies, we have found that people involved in adventurous pursuits such as rock climbing (Csikszentmihalyi, 1975; Mitchell, 1983), solo long-distance sailing (Macbeth, 1988), polar explorations (Logan, 1985), spelunking (Massimini and Carli, 1986), and a variety of similar endeavors, report a state of optimal experience we have called flow. To understand why adventure is so attractive, it is important to understand what happens to people when they experience flow.

Characteristics of the Flow Experience

Flow describes a state of experience that is engrossing, intrinsically rewarding, and "outside the parameters of worry and boredom" (Csikszentmihalyi, 1975). Since its introduction some 14 years ago, the flow concept has been applied theoretically in a variety of disciplines, including psychology, cultural anthropology, and sociology. Its impact has probably been strongest in the study of free time:

play, sports, leisure, and recreation (Csikszentmihalyi, 1969, 1975). On a wider level, the cumulating research from these years has resulted in its application in educational, clinical, and commercial settings (Csikszentmihalyi and Csikszentmihalyi, 1988).

The flow concept emerged from observing and interviewing people who expended much time and energy on activities that provided few extrinsic rewards such as money or recognition: artists, rock climbers, dancers, music composers, amateur athletes, high-school basketball players (Csikszentmihalyi, 1975). Their answers suggested a common set of characteristics that constituted a feeling of enjoyment, well-being and competence that distinguished their particular involvement from the less satisfying events common to most of everyday life. Since what motivated the activity usually seemed not to be external rewards but the activity itself, the conclusion was that it was the quality of the subjective experience itself that made the behavior intrinsically rewarding.

What are the elements of the flow experience that make it a desirable and motivating state? Certainly a crucial one is the level of absorption of the person with the activity. In a flow state there is characteristically a total involvement with the chosen activity, one which typically offers constant challenges that have to be met with appropriate skills, and the ability to match these provides immediate and gratifying feedback. An underlying assumption of flow-producing activities is that they "are ways for people to test the limits of their being, to transcend their former conception of self by extending skills and undergoing new experience" (Csikszentmihalyi, 1975, p. 26). Although ideally flow would be the result of pure involvement, some people need other inducements, such as competition, extrinsic rewards (money, recognition, or the prestige and glamour associated with certain activities), and the risk involved in physical danger, to get involved in flow activities. But when the activity itself becomes the goal, when it becomes a flow-producing experience, the following characteristics are what make it worthy of repetition to the participant:

1. A person in flow knows clearly what must be done, and gets quick feedback about how well he or she is doing. Goals and means are logically ordered, so that it is possible to foresee the results of alternative actions. A tennis player always knows she must return the ball to the opponent's court, and the goal of a chess player is to mate the opponent's king before his own is mated. The many ambiguities of everyday life are banished. However, in flow there is no pause to evaluate the feedback, the person is too involved with the experience to reflect on it. Action and reaction have become so well-synchronized that the resulting behavior is automatic. This is true even in endeavors that are not as clear-cut as

those of a tennis or chess player. A composer of music and an explorer set for themselves tasks that are much more open-ended: however, they must have within themselves certain internalized goals that allow them to recognize positive feedback. For instance, the composer's goal is to write down certain chords and harmonies imagined in the mind; if the notes sound right when played back, the feedback is positive. The explorer may not have a specific goal in mind, but each day some objective must be set and achieved. Without knowing whether they are doing well, neither could feel the enjoyment that makes their efforts a flow experience.

2. Because goals and feedback are so clear, the flow experience involves a merging of action and awareness. A person in flow has no dualistic perspective: there is awareness of the actions but not of the awareness itself. All the attention is concentrated on the relevant stimuli, and one stops being aware of oneself as separate from what is being engaged in. This feeling was aptly described by an expert rock climber in our sample: "You are so involved in what you are doing [that] you aren't thinking of yourself as separate from the immediate activity. . . . You don't see yourself as separate from what you are doing." A dancer described her feelings when a performance is going well in very similar terms: "Your concentration is very complete. Your mind isn't wandering, you are not thinking of something else; you are totally involved in what you are doing. . . . Your body is awake all over. . . . Your energy is flowing very smoothly. You feel relaxed, comfortable, and energetic." Although the flow experience may appear effortless, it often requires strenuous physical exertion or highly disciplined mental activity. For this reason it is difficult to maintain for any length of time without at least momentary interruptions.
3. This merging of action and awareness is made possible by a third characteristic of flow experiences: a centering of attention on a limited stimulus field. To ensure that people will concentrate on their actions, potentially intruding stimuli must be kept out of attention; i.e., one's consciousness is "narrowed" so that irrelevant stimuli are excluded. In play and leisure activities, the rules of the game tend to perform this function. In less structured activities, certain routines and settings facilitate the limiting of the stimulus field and the keeping of attention on what is going on.

The important thing is that irrelevant information is weeded out. A mountaineer describes the results of this complete focusing of attention on what is going on: "When you're [climbing] you're not aware of other problematic life situations. It becomes a world unto its own, significant only to itself. It's a concentration thing. Once you're into the situation, it's incredibly real, and you're very much in charge of it. It becomes your total world." A basketball player expresses the same idea: "The court—that's all that matters. . . . Sometimes on court I think of a problem, like fighting with my steady girl, and I think that's nothing compared to the game. You can think about a problem all day but as soon as you get in the game, the hell with it!" And a dancer sums up the benefits emerging from this centering of attention on a limited stimulus field: "I get a feeling that I don't get anywhere else. . . . I have more confidence in myself than any other time. . . . Dance is like therapy. If I am troubled about something, I leave it out of the door as I go in [the dance studio]."

4. A consequence of this intense concentration is a fourth characteristic of the flow experience, often described as "loss of ego" and "self-forgetfulness." When an activity completely involves a person with its demands for action, the self which serves to negotiate between a person's actions and those of others is no longer necessary. Although in some situations a person may lose touch with his own physical reality, in others there may be a heightened awareness of internal processes. What is usually lost in flow is not the awareness of one's body or of one's functions, but only the *self-construct*, the "I" as the actor or intermediary that a person learns to interpose between stimulus and response. A person making a difficult ascent has to concentrate on his mountain-climber role in order to survive and cannot afford to bring into question any other aspect of his self. Even the possible threat from the mountain itself does not intrude because a good climber feels well-equipped to face the challenges presented to him, and does not need to bring the self into play. The loss of the sense of self is sometimes accompanied by a feeling of union with the environment, whether it is the mountain one is climbing, or one's team, or even the universe. The sense of time may also change: hours may seem to pass by in minutes, or the intensity of the concentration and

the heightened awareness may give seconds a feeling of incredible depth and infinity. This lack of preoccupation with the self, this loss of self-consciousness paradoxically allows people to expand their self-concept: what emerges is a feeling of self-transcendence, of the boundaries of the self being expanded. Thus a good violinist, surrounded by the stream of sound she helps to create, may feel she is part of the "harmony of the spheres." A climber may begin to feel a sense of kinship developing between fingers and rock, between the vulnerable body and the surrounding stone, sky, and wind. An ocean sailor during a long night watch will begin to feel that the boat is an extension of himself, moving to the same rhythms and to a common goal. In each case the person becomes part of a concrete system of action greater than the individual self. This expansion of one's being, accompanied by a successful matching of skills to challenges, is deeply enjoyable, and at the same time it produces a person enriched by new achievements and a stronger confidence.

5. People in flow feel potentially in control of their actions and of the environment. Rather than an active awareness of control, one ceases to worry about losing control, as one often does in real life. This feeling is true even in situations where the objective dangers are quite real—hang-gliding, deep-sea diving, spelunking, race car driving, rock climbing—yet they are seen as predictable and manageable. Risktakers often claim that their enjoyment comes not from the danger itself, but from their ability to minimize it, from their feeling that they are able to control potentially dangerous forces. Rock climbers must always be aware of two types of problematic situations: "objective dangers" such as falling rock, drastic drops in temperature, sudden storms, even avalanches; and "subjective dangers" related to the climber's lack of skill, such as being unable to correctly estimate the difficulty of a rockface in relation to one's ability. Yet the whole point of climbing is to avoid objective dangers as much as possible, and to eliminate subjective dangers entirely by rigorous discipline and sound preparation. As a result many good climbers maintain that their mountaineering exploits are far less dangerous than crossing a busy street in a large city: they feel that the objective dangers presented by the crowds, buses, and taxi drivers are less predictable than those

on a mountain, which can be overcome by skills. Sailors who have circumnavigated the earth's vast oceans alone on a small boat have expressed the same types of feelings. It is this confidence of being able to exercise control through one's skills that not only makes flow experiences enjoyable but also ensures a desire for their repetition.

6. The final characteristic of the flow experience is its *autotelic* nature. The components of the *flow state* are usually so enjoyable and psychically rewarding, and so unlike the drudgery of most of life, that there is a desire to repeat activities that produce the flow experience. Even if initially done for extrinsic reasons, the activity becomes intrinsically rewarding. Some surgeons get so involved in their work that they volunteer their services to local hospitals while on vacation because they find using their skills more enjoyable than sitting on a beach. Children forced to take music lessons may in time get to enjoy playing music for its own sake if they begin to hear the results of using their skills. The same happens to high-school mathematics students who are able to match their skills to the increasingly complex problems being presented in the classrooms.

The Importance of the Flow Experience

Why is the flow experience important? Probably because it provides a key to understanding the strivings of the self and illustrates the human search for an improved quality of individual well-being. The fact that many flow activities are rarely extrinsically rewarded, or at least not rewarded to the extent of the effort involved, illustrates the fact that man needs more than the fulfillment of genetically programmed needs. Both Csikszentmihalyi (1975) and Mitchell (1983) have shown that persons with jobs and statuses viewed as highly desirable by others look for flow experiences outside their everyday work and social settings. Moreover, as modern life becomes more and more complex, feelings of apathy on the one hand and alienation on the other may become even more widespread, and increasing numbers of persons will strive to find situations in which they feel that what they do is of their own choice and under their own control.

An extreme example of this search for improved experience are the full-time ocean cruisers studied by Macbeth (1988), many of whom feel that everyday life contains meaningless goals, alienates the person from the rhythms of nature, and is antagonistic to the autonomy of

the individual. In ocean cruising they find the sense of fulfillment and enjoyment of life that was missing in their previous endeavors. As a result they go so far as to drop out of society to pursue an autotelic but solitary *lifestyle* that they feel gives them autonomy and choice, and enhances their identity and sense of competence. These, of course, are the same goals that are central to *activities* such as rock climbing, chess playing, or adventure seeking; the difference is that such flow experiences are rarely pursued full time. Most people will continue to find their flow experience in free-time activities, although some are lucky enough to find it on their jobs. Other people, who may possess what we call an "autotelic personality," are actually able to structure flow into compulsory activities such as school or work—situations to which many others respond with boredom or frustration. Ideally, of course, school and work, which take up so many years of a person's life, would be structured to provide flow experiences to a maximum number of people (Delle Fave and Massimini, 1988; Rathunde, 1988).

Flow and Adventure Education

Where does adventure education fit into the picture? Certainly it responds to the human desire for novelty, discovery, uncertainty, and problem solving. The pursuit of these attributes assumes that people are motivated by intrinsic rewards, in addition to extrinsic rewards based on physiological drives, stimulus-response, and social conditioning. Hebb (1955), Berlyne (1960), and others have introduced into modern psychology the idea that organisms need to do more than satisfy preprogrammed needs, that an optimal level of stimulation is also needed. One may extrapolate from this position that a person will enjoy an activity if it offers a pattern of stimulation not ordinarily available in the environment; it must also have been freely chosen (deCharms, 1976; Deci and Ryan, 1985), and allow the person to use his physical, sensory, or intellectual potential in a new or challenging way. However, this does not explain why certain activities are considered enjoyable and others are not.

By interviewing participants in "autotelic" activities in our pilot studies, we were able to separate eight items that were regularly cited as reasons for enjoying such activities. These items were then introduced to the later sample groups studied, who were asked to rank their particular activity according to a questionnaire containing both intrinsic and extrinsic reasons for enjoying the activity (Csikszentmihalyi, 1975). The "autotelic factor" of each activity was determined by the ranking given to each reason. The eight factors were:

1. the enjoyment of the experience and the use of skills;

2. the activity itself: the pattern, the action, the world it provides;
3. friendship, companionship;
4. development of personal skills;
5. measuring self against own ideals;
6. emotional release;
7. competition, measuring self against others; and
8. prestige, regard, glamour.

Adventure participants would probably rank the reasons for the activities they undertake in an order very similar to that given by rock climbers (Csikszentmihalyi, 1975) and full-time ocean cruisers (Macbeth, 1988), who rated "the enjoyment of the experience and the use of skills," and "the activity itself: the pattern, the action, the world it provides," as the two top items. Adventure activities, having extrinsic rewards, are a way of challenging oneself to participate in experiences that are removed from everyday opportunities, that may use skills not called for in daily routines, or conversely, as a way of developing skills that one admires and would like to acquire. The milieu in which these skills are practiced—the environment as well as the individuals sharing the same interests and goals—is probably also an important factor. The importance of the other items is likely to vary with the person and the particular activity being engaged in.

Like participants in other autotelic activities, adventure participants are searching for a peculiar state of experience, an experience that is rarely accessible in everyday life. As Mitchell (1983) has pointed out in connection with the choice of mountaineering as an avocation, "the key concept, the desirable condition, the sought-after goal of climbing is the social-psychological condition of flow." What is being sought is the experience corresponding to an unusual match between person and environment. The challenges and skills in question are based on real elements of the situation—such as the waves confronting the sailor—but what effectively determines the quality of the experience is the person's subjective estimation of what the level of challenges and skills are at any given time.

The flow model suggests that to derive enjoyment from life reliably requires the ability to get into flow, stay in it, and make the process evolve. This in turn depends on a capacity to structure interaction with the environment in a way that facilitates flow. Specifically the characteristics of the autotelic experience correspond to capacities to (1) focus attention on the present moment and the activity at hand; (2) define one's goals in an activity and identify the means for reaching them; and (3) seek feedback and focus on its informational aspects. In addition to these abilities, the dependence of enjoyment on a balancing of challenges and skills suggests the importance of a capacity to continuously adjust this balance by using anxiety and boredom as information, and identifying new challenges as

skills grow. Being able to tolerate the anxiety-provoking interactions that test one's skills also appears to be important. Finally, other attributes are likely to have an effect outside of the particular interaction; among these would be the ability to delay gratification, which is necessary for the eventual enjoyment of activities that require a significant investment of energy before they start providing intrinsic rewards. Clearly all of these are important in adventure activities. As Priest and Baillie (1987) have pointed out, good adventure education consists of an accurate evaluation of both the environmental dangers being pursued (risk) and the individual ability of each participant to confront them (competence). It is the careful matching of risk and competence in situations of progressing complexity that produces the experiences characteristic of the flow state. Eventually those who are able to find enjoyment in adventure activities made on purpose to provide autotelic experiences, are more likely to begin finding flow in other areas of life as well. Indeed, a new range of activities may be opened to them as avenues for enjoyment. And when people derive enjoyment from their daily lives, they will spend less time feeling apathetic, anxious, or bored.

This ability to match ever-complexifying skills and challenges produces feelings of enjoyment and achievement that lead to a stronger and more confident sense of self. Over the millions of years of evolution, humans have been challenged by many trials. Rather than giving up, they have met these head-on, and have even managed to derive pleasure from facing the unknown and the unexpected. By being able to turn adversity into flow experiences, they have managed to control nature and to free themselves from many of the constraints imposed by the need to survive. However, at each stage of development, after having found a comfortable adaptation to the environment, humans have not been content to rest on their achievements but have kept pushing on to new frontiers, led on by the enjoyment of the unknown. At present, when we are faced with a daunting array of possibilities for action, the ability to find flow may be as big a challenge as mankind has ever encountered before.

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Towards an Understanding of Flow and Other Positive Experience Phenomena Within Outdoor and Adventurous Activities

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Abstract

Considering what draws people to become involved in adventurous activities, studies on flow suggest that people are motivated to participate because of the intrinsic feelings of enjoyment, well-being and personal competence that they experience. This paper explores the positive experience phenomena termed peak experience, peak performance and flow. Similar and distinctive characteristics are identified, and factors influencing the ability to experience such peak moments are considered. A state of flow, which appears to hold the most relevance for adventurous activities, is explored in greater detail and considered in the light of The Adventure Experience Paradigm. Csikszentmihalyi's flow models are outlined and examined with particular reference to perceived levels of challenge and skill. It is suggested that an insight into the nature and characteristics of such optimal experiences can contribute to our understanding of why adventurous activities are intrinsically motivating. Such an understanding can assist practitioners in enhancing the learning experiences and opportunities for development of each individual participant.

Introduction

When considering what draws some people to become involved in adventurous activities, Lifey (1993:10) refers to special moments of 'pure perception, uncontaminated thought and freedom to Be' that provide intense feelings of aliveness and occur spontaneously as peak experiences. It is such peak moments experienced during outdoor and adventurous activities that this paper sets out to explore. There is much anecdotal evidence to suggest that peak experiences can lead to new interests and changes in attitudes, and there is a growing interest in the impact of such experiences in education (Cooper, 1996). 'Peak experience' is often used as an all-encompassing term to describe a significant positive experience. Over the past 20 years several positive experience phenomena have been considered within the literature; more recently within a sporting context. Outdoor and adventurous activities, because of their nature in encouraging (and often demanding) a high level of involvement, provide opportunities for significant positive experiences. As practitioners within this field, an insight into the nature and characteristics of such experiences can assist in developing understanding of why

outdoor and adventurous activities are intrinsically motivating. An understanding of such phenomena can also assist us in education to enhance the learning experiences and opportunities for development for each individual participant.

When considering the main positive experience phenomena explored in the literature, it is a state of 'flow' that appears to hold the most relevance for outdoor and adventurous activities in that it has been identified as being intrinsically motivating.

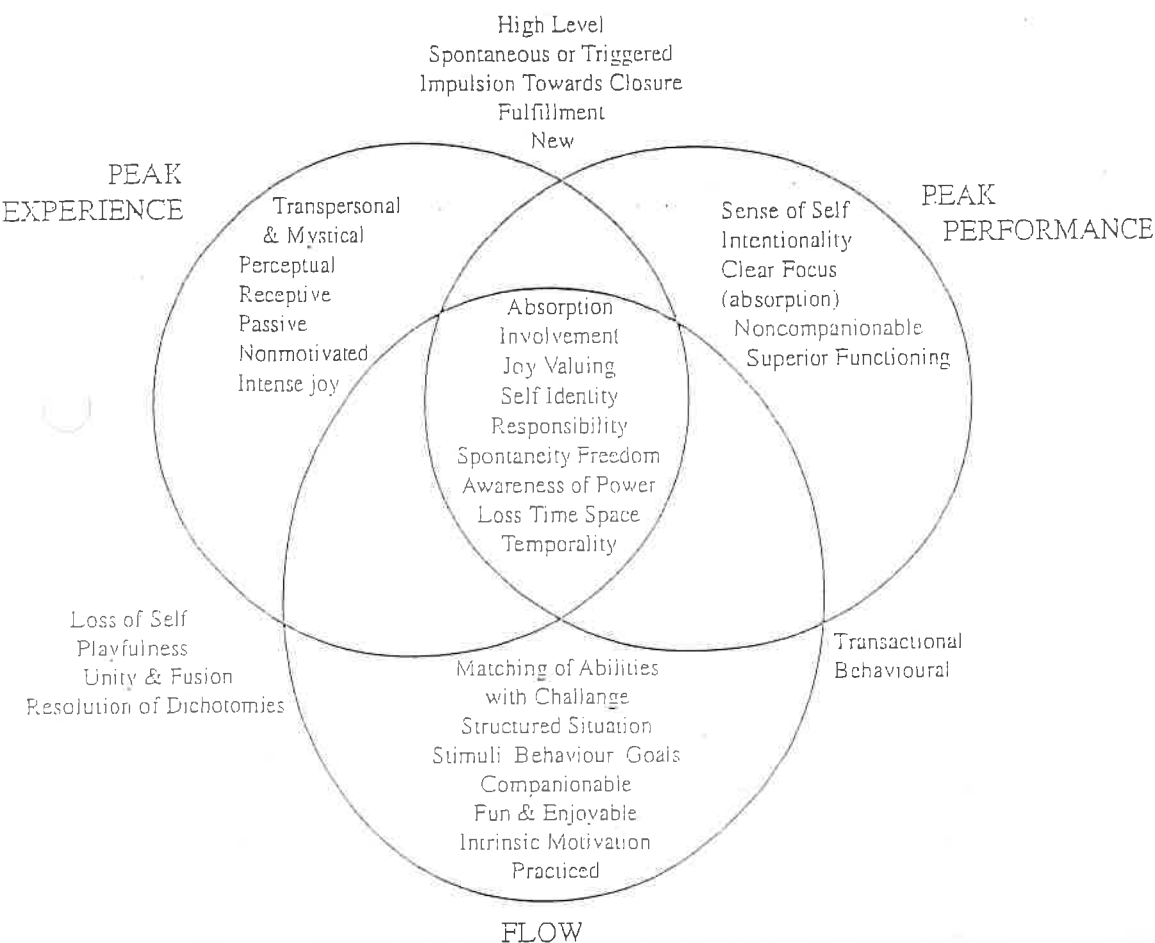
The various elements of the flow experience are linked together and dependent on each other. By limiting the stimulus field, a flow activity allows people to concentrate their actions and ignore distractions. As a result they feel in potential control of the environment. Because the flow activity has clear non contradictory rules, people who perform in it can temporarily forget their identity and its problems. The result of all these conditions is that one finds the process intrinsically rewarding. (Csikszentmihalyi 1975: 48)

From early childhood, people are conditioned to respond to external cues, often in the form of rewards or punishments. However, Csikszentmihalyi (1975) notes that striving for material goods, or for power, prestige and esteem is largely a motivation that is learnt through socialisation and not a universal trait. Those taking for granted the importance of external incentives are likely to dismiss as irrelevant enjoyment of the task, or the extent to which it is meaningful or rewarding in itself. However, in spite of the acceptance of the value of extrinsic rewards by most members of society, some people choose to expend energy on activities that appear to contain rewards within themselves. Csikszentmihalyi (1975) examined people engaging in activities that could be categorised as play, games or creative, offering enjoyment but no obvious extrinsic rewards. He studied rock climbers (as well as chess masters, basketball players, dancers and many others) and found that enjoyable activities provide a common experience that he identified as a powerful motivating force in human behaviour and called flow. Flow can be characterised by a satisfying, often exhilarating feeling of creative accomplishment and heightened functioning. Subsequently people have reported being able to look upon the world with heightened perception, and to generalise formal and affective components of the experience into everyday life (Macdonald and Csikszentmihalyi, 1993).

Although Csikszentmihalyi's research (1975) examined involvement in many different activities, subsequently flow, along with other positive experiences, has been identified as worthy of examination by sport psychologists. (Whilst the majority of research within this area applies to sport, it is mentioned here because it is considered relevant to participation and performance within outdoor and adventurous activities). Generally in sport there has been an emphasis on performance outcomes, but in order to increase understanding of athletes' experience, sport psychologists are beginning to focus on subjective states along with objective outcomes (Kinnecik and Stein, 1992). Mammell, Zupanek and Larson (1988) note that the attainment of flow states is believed to enhance self-esteem, and promote personal growth. This is supported by Kinnecik and Stein (1992) when they conclude that athletes who

experience flow are likely to gain more enjoyment and positive affective experiences than athletes not experiencing flow. Thus a greater understanding of the flow state can assist coaches, and leaders in helping athletes and participants in adventurous activities achieve this optimal level of experience. Whilst this will not necessarily enhance performance, flow has been found to be related to positive performance outcomes (Jackson, 1996) or 'peak performance'. According to Ravizza (1977), during moments of peak performance an athlete obtains expanded views of themselves as fully functioning individuals which suggests positive outcomes in addition to those related to achievement. In examining the phenomenon of flow with reference to sport, and more particularly outdoor and adventurous activities, it is important to consider other positive experiential phenomena that have been identified within relevant literature. In considering peak moments in sport, Privette (1983) and McInman and Grove (1991), in addition to flow, refer to peak experience and peak performance as models of optimal human experiencing. When considering characteristics of each, Privette (1983) identifies absorption, valuing, joy, spontaneity, a sense of power, and personal identity and involvement as being important attributes shared by all three [see Figure 1].

Figure 1. Comparison of Topologies of Peak Experience, Peak Performance and Flow (Adapted from Privette 1983)



Peak Experience

Peak experience was first defined by Maslow (1971) as moments of highest happiness and fulfilment. Having concluded that psychology appeared to be based on the study of sick people, Maslow focused his attention on healthy people of which he considered there were a greater number. He found that these people tended to report having experienced moments of pure happiness when all weaknesses were left behind and they felt at one with the world. Initially Maslow believed peak experiences could have far-reaching beneficial consequences, but he subsequently considered that they could occur without any kind of long-lasting benefit. He also argued that a greater number of peak experiences tend to be reported by self-actualising¹, fully functioning individuals (Wilson, 1972). Peak experience was subsequently defined by Leach (1963:11) as being a highly valued experience, standing out due to its intensity of perception or sense of profound significance. In 1984 Ravizza, in a study of athletes, reported nine common characteristics of peak experience in sport including:

- cc
flow
- a) Loss of fear with no fear of failure;
 - b) A sensation of being totally absorbed in the activity with a narrow focus of attention;
 - c) Effortless performance;
 - d) A sensation of complete control;
 - e) A time-space disorientation (time usually seeming to slow down);
 - f) A perception of the universe being integrated and unified, as if in some moment of special insight;
 - g) A perception of the experience being unique, temporary and involuntary.

As previously identified, there appear to be several common characteristics of the positive experiential phenomena that have been classified as peak experience, peak performance and flow, such that it is not always easy to categorise a particular experience or event. Some of the characteristics identified by Ravizza in 1977 as peak experience were subsequently re-categorised by Privette (1983) and Melhman and Grove (1991) as applying to flow or peak performance. There does seem to be some lack of consensus as to what level of physical activity or active involvement might be characteristic of peak experience. However, Privette (1983: 1362) concluded that 'a joyful event is exclusively peak experience when it does not specifically involve (superior) behaviour'. There appears to be agreement that a distinguishing feature of peak experience is a feeling of great joy or elation, not present to such an intensity in peak performance or flow.

Peak Performance

Peak performance is a state of superior functioning that characterises optimal sport performance, resulting in personal best and outstanding achievement. Peak performance has been defined as the prototype of superior use of human potential, often transcending prior standard, of performance more fully than could be reasonably expected (Jackson and Roberts, 1992: 37).

Peak performance need not necessarily relate to sporting activities and might therefore be creative expression through an art form, intellectual mastery of a problem or an incident of rich human relationship (Privette, 1983). However, it is peak performance within a sporting context that is considered here. Mental and physical conditions described as being characteristic of peak performance include feeling:

- a) Relaxed;
- b) Confident (without anxiety or fear);
- c) Clearly focused in the present with action occurring automatically and effortlessly;
- d) Narrow focus (with poor global awareness);
- d) Highly energised;
- e) In control (an awareness of power);
- f) A sense of fulfilment;
- g) Not companionable.

(See for example, Privette, 1981, 1983; Garfield & Bennett, 1984; Privette & Bundrick, 1987; Gould, Eckland & Jackson, 1992)

With reference to the final characteristic, Privette (1983) suggests that involvement by others might actually prevent the occurrence of peak performance, possibly by disrupting concentration. In considering characteristics unique to peak performance, Privette (1983) clarifies that an event is exclusively peak performance when accompanied by superior functioning and a high level of performance, but not intense joy.

Flow

As previously identified, detailed analysis of individuals engaged in enjoyable, absorbing and intrinsically motivating activities (some of an athletic or physical nature) resulted in Csikszentmihalyi identifying an experience he termed flow. He suggested play (activities such as climbing have been termed 'deep play'), game and creative situations to be particularly amenable to creating flow experiences because of their nature and structure (Gould, Eckland & Jackson, 1992). Whilst sharing some similarities with peak experience and peak performance, flow is distinguishable from both of these and appears particularly significant when considering the area of outdoor and adventurous activities. Jackson (1996) notes that peak performance denotes a standard of accomplishment rather than a psychological state, although evidence has been found to suggest that flow underlies or is some sort of precursor to both peak performance and peak experience. In other words, being in flow can create a state where peak performance or peak experience can occur (Gould, Eckland & Jackson, 1992).

Csikszentmihalyi's study of flow over more than two decades has resulted in the assembly of nine defining characteristics (see for example, Csikszentmihalyi, 1990; Jackson, 1996; Jackson & Marsh, 1996) which are outlined in Table i. Support for the relevance of the characteristics of flow being divided into nine dimensions was found by Jackson (1996) when investigating athletes' descriptions of their experiences of flow.

Table 1. Characteristics of the Flow State as Identified by Csikszentmihalyi (1990).

<i>Dimension of the Flow State</i>	<i>Description of the Dimension</i>
Challenge-skill balance	Particularly significant within sport-related research; this refers to the balance between perceived ability and task demand and is depicted in Csikszentmihalyi's (1975) original model of the flow state.
Action-awareness merging	No awareness of self as separate from the actions being performed. Deep involvement leads to the activity becoming spontaneous.
Clear goals	A strong sense of what is to be done. Goals either set in advance or developed out of involvement in the activity are clearly defined.
Unambiguous feedback	Clear and immediate feedback concerning performance in relation to the goal(s) set.
Concentration on the task in hand	Total concentration on the task in hand with a narrowing of focus and the centring of attention on a limited stimulus field.
A sense of control	A sense of exercising control without actually trying to be in control (Jackson, 1996). No worry about a possible lack of control.
Loss of self-consciousness	Concern for the self disappears and the person becomes one with the activity (Jackson, 1996).
Transformation of time	A loss of time awareness or time disorientation. A person can lose track of time altogether and time can appear to "stand still".
Autotelic experience	An intrinsically rewarding experience appearing to need no rewards or goals external to itself and involving a deep sense of enjoyment.

The first characteristic of challenge-skill balance bears some similarity to the Adventure Experience Paradigm (1996) (see Figure 3) and will be examined later in the paper. The suggestion that flow will only occur when there is a matching of perceived ability and task demands will be subsequently questioned. The merging of action and awareness does not allow for intrusive thoughts or feelings; for example, performers of stunts and acrobats manage to maintain for short periods of time after which a person tends to perceive the activity from the 'outside' and flow is interrupted. Children interviewed by Csikszentmihalyi (1975:96) reported that belaying allowed a break in concentration and offered 'regular opportunities to

elaborate and solidify the experience through reflection'. A sense of control and a resultant absence of worry is present in flow situations where objective dangers are real (for example in mountain or free climbing). The identification of flow as an autotelic experience appears to be given particular significance in studies on flow (see for example, McInman & Grove, 1991; Jackson, 1996) and is highlighted in the words of a climber interviewed during Csikszentmihalyi's research (1975: 47):

The justification of climbing is climbing...you don't conquer anything except things in yourself...recognising that you are in flow. The purpose of the flow is to keep on flowing...There is no possible reason for climbing except climbing itself; it is a self-communication.

Flow Experiences in Outdoor and Adventurous Activities

Studies on flow suggest that people are motivated to participate in outdoor and adventurous activities because of the intrinsic feelings of enjoyment, well-being and personal competence that they experience (Priest & Gass, 1997). Robertson (1986) considers the notion of natural sports such as rock climbing being intrinsically motivated as paramount to the classical leisure concept in which activity is performed for its own sake or as its own end. As noted by Macaloon and Csikszentmihalyi (1983), rock climbing (as an example of an outdoor and adventurous activity) is an outstanding example of a particular class of flow activity because it involves physical danger and no discernible external reward. It is through involvement in such activities that individuals can learn about themselves and develop in ways that have implications for their experience of everyday life.

Rock climbing was classified by Jeremy Bentham, the eighteenth-century British philosopher, as 'deep-play': 'play in which the stakes are so high that it is...irrational for men (sic) to engage in it at all' (Geertz, 1973: 432). In sharing with many other outdoor and adventurous activities a perception of danger for the participant, rock climbing requires total involvement in order to overcome the challenge of the situation. It could be argued that if the optimal 'balance' between perceived competence and task demands is achieved in an activity such as rock climbing, many of the characteristics of flow are likely to be facilitated if the person is to successfully complete the task. As identified by Csikszentmihalyi (1975: 81) 'the physical and mental requirements involved in staying on the rock act as a screen for the stimuli of ordinary life - a screen maintained by the intense and focused concentration. The addition of risk (or perceived risk) to the intellectually and physically engaging aspects of the activity compel the person to attend to the immediate situation, with any lapse of concentration being seen as potentially disastrous. Physical danger provides clear and immediate feedback for each action; 'there is a keen awareness of what is 'good' and what is 'bad' and there is not the struggle to do incompatible or conflicting actions, as is common in everyday life' (Robertson, 1986: 448). In spite of the fact that danger is accepted as being a real and crucial aspect of the activity, in flow, feelings of control and competence predominate because the risk is highly calculated and the danger managed due to the individual's matching² level of competence. Within the context of flow, Macaloon and Csikszentmihalyi (1983) note the objective correlates of the feelings of control to be experience, training, precaution, anticipation, protection,

judgement, responsibility and evaluation. In order to achieve a state of flow, they consider that a certain level of experience, skill and conditioning appropriate to the level of challenge must be attained. The need for a certain level of competence in order to accurately assess the risk and experience feelings of control is an issue open to question. Csikszentmihalyi's (1975) original flow model [see Figure 2] suggests that flow could be experienced when both the perceived challenge and matching skills were at a low level, but McInman and Grove (1991) suggest that those with little experience are unlikely to experience a peak moment (e.g., flow). Csikszentmihalyi's earlier research (1975) did lead him to conclude that beginners do not experience flow possibly because an activity that is too demanding is likely to result in too high a level of anxiety, or because conscious thought is necessary at a novice level preventing detachment. Based on extensive research Csikszentmihalyi and Csikszentmihalyi refined this flow model (1988: 262), noting that the original model provides a description of the way in which flow changes with the 'increased complexification' of challenges and skills over time (for any one person). The reformulated model [see Figure 2] proposes that 'flow results from experience contexts characterised by a match between challenge and skills only when both challenges and skills exceed the level that is typical for the day to day experiences of the individual' (Ellis, Voelkl & Morris, 1994: 338). It can be seen from the model that only experiences where both perceived levels of challenge and skill exceed an individual's 'mean' are coded as flow. It is suggested that a balance between low levels of perceived skill and challenge can lead to feelings of 'apathy'. Where perceived skill is high but the challenge is seen to be of a low level, anxiety results, and situations where the converse exists are classified as 'boredom' experiences. Having reformulated the flow model to contain four channels, Csikszentmihalyi (1988) suggested that researchers consider the use of additional channels and subsequently an eight channel model has been used (Csikszentmihalyi & Nakamura, 1989) [see Figure 2]. This model has been questioned by Ellis, Voelkl and Morris (1994) who identify a need for further theoretical development, although Csikszentmihalyi's (1988) assertion that it does not make sense for flow to be experienced when challenge and skill are below what is customary for that person is a valid one.

It has already been suggested that flow occurs when there is a balance between perceived competence and perceived challenges of the situation. Jackson and Roberts (1992: 157) identify a person's perception of the challenges and skills rather than the objective nature of either of these to be a critical aspect of the flow situation and conclude 'a perception that one has the necessary ability for the task is more likely to result in a flow-producing situation... perception of own ability and the subjective meaning of the task are therefore crucial to flow'. As a person becomes more experienced within a certain activity they are able to assess their own competence and the challenge of the situation more accurately which could offer a further explanation of why it is unlikely for a novice to experience flow. In an attempt to explain participants' experience of adventure, Priest (1990) developed the Adventure Experience Paradigm (1985): a model based on the variables of risk and competence [see Figure 3]. Risk can be defined as the potential to lose something of value and competence as the capability of individuals to deal efficiently with the demands of the situation (Priest & Gass, 1997). In the model the challenge is created by the interaction of competence and risk to overcome

uncertainty. Five conditions of challenge are possible with a balance of risk and competence being termed 'peak adventure'. Priest (1990) proposed 'peak adventure' as a goal for participants in outdoor and adventurous activities as it is this condition that offers opportunities for the experience of flow and personal growth. However, as in Csikszentmihalyi's flow model, it is an individual's perceptions that are significant (rather than any objective assessment of risk or competence) and it is with experience that a participant is likely to correctly perceive a situation and thus increase the likelihood of experiencing peak adventure.

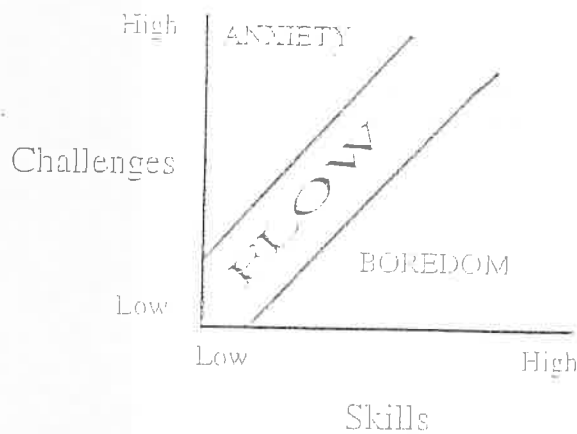
Mitchell (1983) noted the lack of important conditions or antecedents in Csikszentmihalyi's theory on the experience of flow and as a result he suggested several important conditions that facilitate the flow experience. These antecedents include freedom of choice and uncertainty

outcome and have implications for leaders and participants within outdoor and adventurous activities if peak adventure experiences and consequently flow are to be attained. Mitchell suggests that an activity must be voluntary if it is to provide opportunities for experiencing flow. This means that individuals should be able to choose their level of involvement with no one being coerced into any situation. Witt and Ellis (1984: 60) note that 'the most universally agreed upon condition which is characteristic of optimal leisure functioning is the concept of freedom' with an individual feeling 'free to' pursue leisure in the manner of their choice. They also identify perceived control as one aspect of 'freedom to' where an individual believes that they have the ability to control the process and outcome of an experience through their own efforts and abilities. The importance of an internal locus of control has been identified elsewhere in literature on outdoor and adventurous activities as an antecedent to flow and personal growth and development (Priest, 1993). Csikszentmihalyi and Csikszentmihalyi (1990: 153) consider that as modern life becomes more and more complex increasing numbers of people 'will strive to find situations in which they feel that what they do is of their own choice and under their own control'.

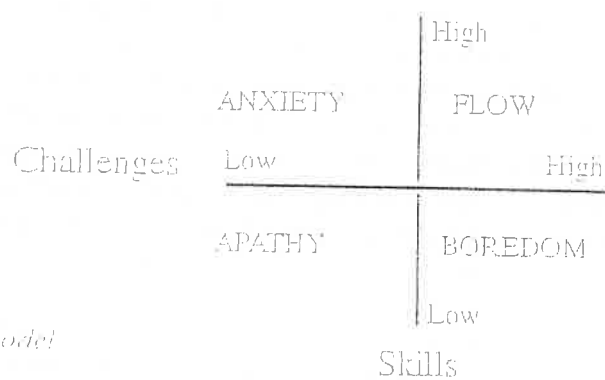
An activity such as rock climbing provides an unlimited range of action challenges, the level which can be selected in advance to best match one's level of skill. Climbs are usually graded enabling a climber to select a climb at the limit of their potential, or offering the possibility of identifying new goals (such as focusing on form and technique rather than achievement). In addition there are less predictable factors such as environmental conditions, mood and others performance that can always provide unexpected challenges. Thus climbing offers perpetual novelty. Macaloon and Csikszentmihalyi (1983: 367) note that control over the choice of challenge levels is extremely important but 'at the same time a degree of uncertainty is always implicit and necessary to the process....' 'The uncertainty factor is the flow factor...you can't have a certain flow'. This is an interesting and significant point because at times within the literature (see for example, Carlisle, 1988; Ellis, Voelkl & Morris, 1994) the flow state appears to be reduced to a skill-challenge equation with the suggestion that flow is experienced when opportunities for action are in balance with a person's skills. Some interpretations of Priest's (1990) Adventure Experience Paradigm misinterpret peak adventure as being a state where perceived competence and risk are perfectly matched. However, this is

Figure 2. Original and Reformulated Flow Models (Taken from Ellis, Voelkl and Morris, 1994).

Original Flow Model



Four Channel (Reformulated) Flow Model



Eight Channel (Reformulated) Flow Model

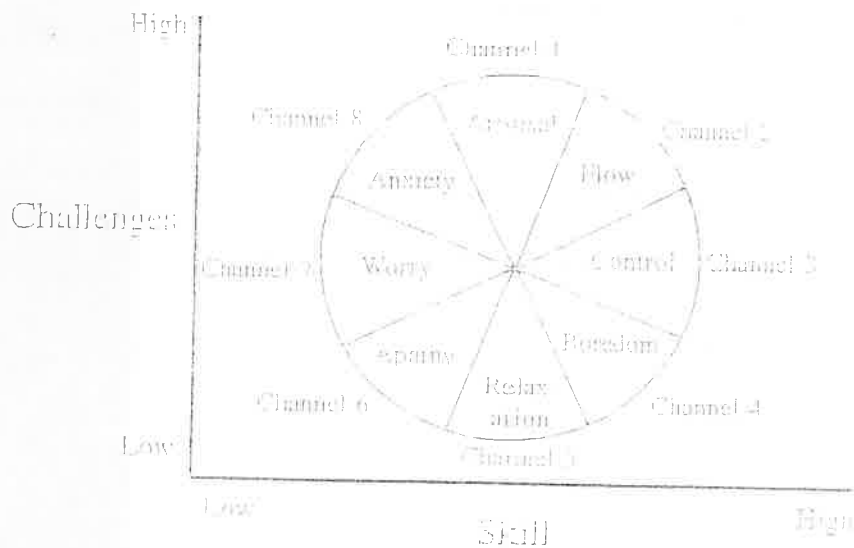
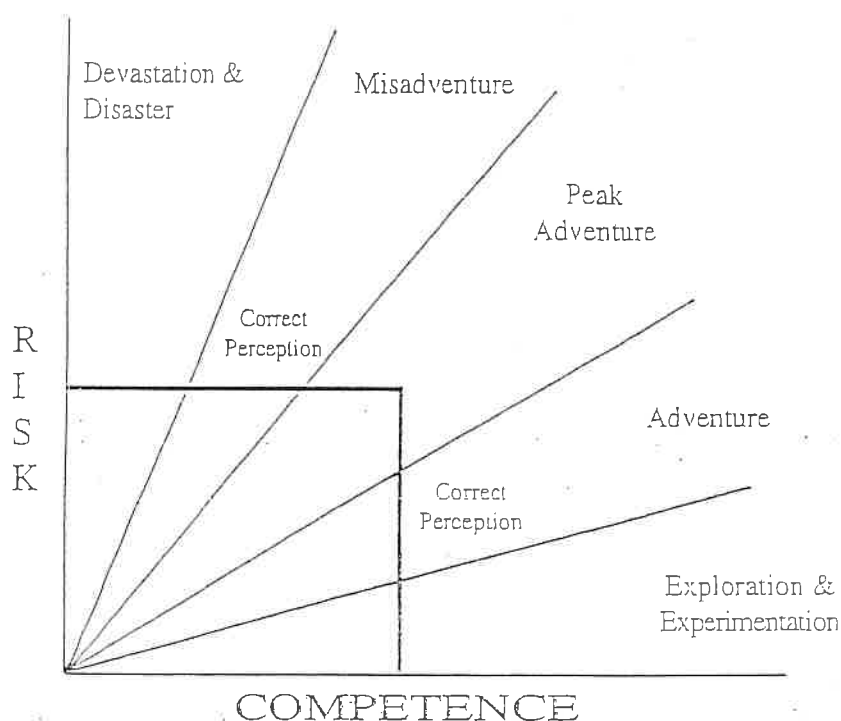


Figure 3. The Adventure Experience Paradigm (Priest & Martin 1985).



not the case. In discussing the appeal of adventure Csikszentmihalyi and Csikszentmihalyi (1990) refer to the human desire for novelty, discovery and uncertainty, and the enjoyment gained from exploring the unknown and confronting the unexpected. Thus peak adventure is a degree of uncertainty and, as applied to Priest and Martin's model, some dissonance between perceived competence and risk. In other words there is some uncertainty as to whether the individual can overcome the challenge of the task. It is this uncertainty that makes overcoming the challenge as a result of personal competence such a rewarding experience. As stated by Mitchell (1983: 147): "If in climbing we feel and become more than was possible before, let us not forget whom to praise. Whatever we find in the mountains, we took there in the first place."

Conclusion

In considering why people take part in outdoor and adventurous activities such as climbing, Mitchell (1983) notes, 'The key concept, the desirable condition, the sought-after goal of climbing is the social-psychological condition of flow'. Thus what is being sought is an experience corresponding to a 'match' between person and environment (Csikszentmihalyi & Csikszentmihalyi, 1990). According to Priest and Baillie (1987), good adventure education

consists of the ability of each participant (competence) to accurately evaluate and confront the environmental dangers being pursued (risk). By carefully 'matching' competence and risk in progressively complex situations, experiences characteristic of the flow state can be produced. Csikszentmihalyi and Csikszentmihalyi (1990: 154) suggest that 'those who are able to find enjoyment in adventure activities made on purpose to provide autotelic experiences, are more likely to begin to find flow in other areas of life as well'. It is important to note that adventure is individual and where facilitated for others need to be differentiated for each participant. Macaloon and Csikszentmihalyi (1983: 382) take this a stage further when they state that 'to provide intrinsic rewards an activity must be finely calibrated to a person's skills - including his (sic) physical, intellectual, emotional and social abilities'. Thus the same challenges are unlikely to produce flow in people of very different skills, and not everybody will enjoy the physical challenge provided by many outdoor and adventurous activities.

This paper has provided an overview of positive experiential phenomena with particular consideration given to flow and its relevance within outdoor and adventurous activities. Research has revealed that, in contrast to the confusion, anxiety and dissatisfaction often experienced as part of everyday life, outdoor and adventurous activities provide experiences that are intrinsically engrossing. Demands are clearly identified, feedback is unambiguous, and the outcome is dependant upon the skills and abilities of the participant. Mitchell (1983: ix) notes that such experiences provide relief from 'the artificiality' of public standards and restores to us a private and seemingly more 'real' basis of evaluation'. Csikszentmihalyi (1975: 161) refers to climbing as an example of 'deep play' and notes that whilst it has not been proved, it is generally agreed that play 'provides mental and physical stimulation, results in feelings of competence (and) satisfies psychic needs not met by working'. Clearly in order to increase understanding of involvement in such activities, as well as to make flow more accessible to participants, there is a need for further research within the area of outdoor and adventurous activities.

Notes

1. Wilson (1972) outlines Maslow's self-actualising person as relatively spontaneous in behaviour, which is marked by simplicity and naturalness and by lack of artificiality or straining for effect. Such people often resist enculturation and maintain a certain inner detachment; they tend to be centred on problems external to themselves rather than ego-centred. Such people are always creative and have a capacity to enjoy things again and again as if new. However, not all self-actualising people report peak experiences and such experiences are not a guaranteed means of attaining self-actualisation.
2. Terms such as 'balance' and 'matching' when used with reference to challenge, risk and skill give a distorted view of a situation conducive to flow. Although used in much of the literature, it is considered (and will be discussed further on in this paper) that some dissonance or uncertainty is necessary for flow to be experienced.
3. In a study conducted by Ellis, Morris and Voelkl (1994: 353) they note high levels of enjoyment and positivity of affect found in the low challenge-high skill, or 'boredom' channel. 'The data from the present study suggest that the term 'boredom' may not capture the essence of the low challenge-high skill experiences, since these experiences are perceived to be positive by the subjects'. They consider that this category should be renamed if the findings are replicated.

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