

Risk Perception for Paragliding Practitioners

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Abstract As an adventure sport, paragliding exposes participants to different levels of life risk. However, the boundary between calculated risk and real risk is a subtle one, depending on the practitioner's perception. Thus, this study aimed to analyze risk perception of 73 paragliding practitioners. The descriptive-exploratory study method was used. Data was collected via a questionnaire validated according to the Delphi technique. Variables were evaluated from a bipolar Likert type scale, ranging from 1 to 7. Paragliding pilots perceive risk as a genuine form of ludic adventure. When airborne, their perception of risk is related to their level of confidence in technique mastering and equipment quality. A selfish attitude was also observed: pilots are aware of their own risks but fail to realize the risk they can pose to others when rules are ignored.

Keywords Risk, Practitioner, Paragliding

1. Introduction

The increase in bodily practices can be understood as the desire modern men and women have to overcome challenges. Within this context, adventure sports are a result of a series of social factors, such as time streamlining, current work configuration, need for self-expression and change, (re)discovery of nature, physical practice, contemplation, overcoming one's own limits, leisure, ability to experience strong emotions, pleasure, freedom, health promotion, and quality of life.

Terms and expressions such as adrenaline, thrill, daring, and overcoming one's own limits, have become part of the vocabulary of those dedicated to adventure and calculated risk[8].

Whether for competition or leisure, the practice of adventure sports in natural environments (land, water, and air) involves risks of different proportions, such as falls, bumps, bruises, fractures, drowning, freezing temperatures, discomfort, etc. Studies have shown that, in some cases, the use of sophisticated equipment alone is not sufficient to prevent a serious accident.

Paragliding practitioners must master all the flight techniques, as well as weather information. They should understand and carefully calculate every possible risk to guarantee a safe and pleasurable flight. Still, some accidents occur, in which the pilot - due to carelessness, distraction or lack of control - is hurt or even dies[1].

From this perspective, this study aimed to measure the perception of risk by paragliding practitioners in the state of

Minas Gerais, Brazil.

1.1. Discourses on Risk

Since ancient times, human beings have experienced risky events, mostly associated with natural and climatic phenomena, such as hot summers, glacial winters, and icy waters[3]. The role played by risk in human life, as shown in studies by Beck, Bernstein, and Le Breton, is significantly important to help understand issues related to adventure sports as a bodily practice[5,7,15,16]. Risk is an anthropological factor stemming from the responsibility towards others to the need of physical and moral self-preservation. Fear has been ritually repelled by men with prayers, collective ceremonies, and organizations to control adversity. These precautions remind humans of their vulnerability in face of events and need to protect themselves from threats[15,16].

Risk may be perceived as a condition inherent to life itself, part of a set of factors that stand between the actions of agents and the attempt to achieve the explicitly or implicitly desired results[14]. In other words, the perception of risk by a particular social group will depend, mainly, on the meaning assigned to it[5].

Based on risk discourse theories, Spink, Spink, and Menegon point out three discursive traditions that attempt to explain risk in specific forms, thus defined[21,24]:

First tradition - Common sense danger refers to the experiences of adversity and unpredictability which, most of the times, cannot be foreseen. This tradition is rarely considered in risk analysis, but it is certainly present in the discourse analyses of ways of talking about risk in everyday life.

Second tradition - the perspective of control and discipline refers to the historical perspective of risk discourses related to the increasing need to govern populations since classical

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modernity, associated to individual disciplinary processes[11]. In these processes, access to information empowers the individual to manage his/her own health. Personal lifestyle as a form of self-control is the most famous aspect of this reorganization.

Third tradition - the perspective of adventure, as defined by the fields of sports and economy (business), conveys the message that "taking risks" is necessary for the individual to achieve certain gains in society. Risk, in this sense, appears as an object of desire.

Based on research on the discursive practices on risk[22,23], three specific glossaries were elaborated, including the following entries: Danger-risk (first tradition), Probability-risk (second tradition) and Adventure-risk (third tradition), as seen in Table 1.

Table 1. Meanings attributed to risk

Danger-Risk	Probability - risk	Adventure-risk
Threat	Risk	Adventure
Loss	Bet	Adrenaline
Luck	Chance	Emotion
Danger (dangerous)	Secure (security)	Radical
Badluck	Probability	Extreme
Good fortune (fortunate)	Preventing (prevention)	Challenge
Fatality	Risky	Boldness
Obstacle		
Adventure		
Fate		

Source: Spink (2001) and Spink; Medrado; Mello (2002).

Practitioners of adventure sports, such as paragliding, seek to positively validate bold attitudes that stimulate searching for risky events and/or attitudes[15]. An option for risk is motivated by elements as ancestral as humans themselves.

An old connection is perceived between risk and adventure, validated by boldness, which may lead to innumerable discoveries[5,22]. This connection is present in many other modalities of adventure sports, today. These authors also claim that adventure-risk appears in the 1970s as the adventure sport modality denominated off-the-road, in races such as the Paris-Dakar Rally in 1979 and the Camel Trophy in the 1980s in different countries.

The term adventure-risk is usually used to emphasize an important shift in the modern meanings of risk, which re-trieves adventure as a positive dimension of risk management. These physical practices in nature can be commercial or not, for leisure or competition. However, they will be considered adventure-risks if the practitioner is involved in considerable and/or extreme challenges to his/her skills in unpredictable environments, such as air, water, forests, and deserts, leading to serious personal consequences, such as death, in case of failure and/or error, as it occurs in free flight, parachuting, climbing, surfing, and in many other adventure activities[5,22,24].

Although procedures to guarantee the physical integrity of practitioners of adventure sports are necessary, one cannot overlook the fact that total control of the risk involved would eliminate the attractiveness and thrills sought[19,20,25].

Therefore, when adopting risk control procedures, variables such as activity level and practitioner's skills should be considered[6,28].

1.2. Paragliding

The most ancient report on men's attempt to fly is a Greek myth that tells the story of Daedalus, an architect, and his son, Icarus. They used wax, bird feathers, and magic to build wings to escape from an impenetrable maze located in Crete. The flight was spectacular. However, disregarding his father's rules, Icarus approached the sun and lost his wings - an imprudent attitude that cost him his life. Feeling guilty for his son's death, Daedalus cursed his ambitious project, and the dream of flying was soon abandoned[26].

No accurate estimate is available from associations, federations, and confederations on accidents involving paragliding practitioners, or any other type of adventure sports in Brazil. However, it is clear that due to its specificities, paragliding is a high-risk sports modality, as pilots, once airborne, become totally vulnerable to weather changes, such as thermal currents, wind direction, etc.

2. Materials and Methods

This work was characterized as a descriptive-exploratory study[9,17,18] aimed to observe, record, analyze, describe, and correlate facts or phenomena without manipulating them to discover their precise frequency of occurrence and relation to other factors. The Delphi technique was used to build and validate data collection via questionnaires[10,27], based on suggestions of three experts on which questions to ask paragliding practitioners about their perception of risk of this sport.

To collect the data, a questionnaire was used containing nine items based on the literature, with the variables being evaluated from a bipolar Likert scale ranging from 1 to 7 (with mean point equal to 4). Thus, for each item evaluated, answers included options starting from extremely likely to extremely unlikely for a specific behaviour (extremely (+), enough (+), a little (+), neither (+/-), a little (-), enough (-) and extremely (-)).

The sampling group was constituted of 73 paragliding practitioners, with an average age of 25 (twenty five) years, from Governador Valadares, Minas Gerais, Brazil. The inclusion criteria were male participants over 18 years of age, and paragliding practitioners at the Ibituruna Peak, plus a signed Free Consent Term (FCT). Exclusion criteria were refusal to sign the FCT, being under 18 years of age, and not being interested in participating in the survey. Statistical analyses were carried out through descriptive statistics.

3. Results

Table 2 presents items related to the practitioner's perception of the importance of mastering flight technique as

well as of being aware of the quality, maintenance and condition of the paragliding equipment used. Overall, no significant differences were verified among the items discussed. Most practitioners are aware of the importance of mastering flight technique, and of equipment quality and maintenance, which were ranked as extremely and very likely to minimize the risk of accidents.

Regarding the procedures to be considered at events prior to practicing paragliding, the results presented in Table 3 show significant variability between the perceptions of practitioners on the relevance of the items “prior consideration of weather conditions” and “prior knowledge of the natural environment” to reduce and/or predict the risks.

Table 4 presents the results on the practitioners’ perceptions of physical integrity related to the practice of paragliding. Among the items analysed, most practitioners perceived paragliding as a risky activity and believed that the strong sensations (benefits) experienced at the event outweighed the risks taken. As for the relationship established in safety rules versus personal risk minimization, most practitioners presented a positive perception. However, perception of the risk posed to others showed significant variability among the practitioners.

4. Discussion

All the participants agreed on the importance of the procedures and measures used to anticipate, minimize, and control risks when practicing paragliding. Discussing the pedagogy of risk, Le Breton[15] states that the experiences acquired and the gradual integration of the techniques

minimise the threats or confine them to places where surveillance is exercised. The slightest inattention can cause serious problems. It must also be taken into account that these modalities, stimulated by the development of scientific research, both through improved technical performance and material production of material, make it increasingly possible for the practitioner to enjoy the thrill and new emotions within a margin of risk control.

It is interesting to observe that all participants realize the relevance of mastering the technique and of equipment quality. However, there is a high variability in the perception of the importance of adopting procedures prior to practice, such as those related to weather forecast, sudden changes in the air masses, storms, etc. Prior knowledge of the natural environment - such as relief characteristics, possible landing sites and thermic potency - is one of the aspects related to risk of flying, which, in turn, could help minimise other risks. Analysis of the results suggests that practitioners feel self-sufficient and confident in the quality of the equipment and their technical mastery. Thus, the natural environment is presented only as a stage for adventurous practices.

Although sports activities tend to tame the environment by imposing rules, the natural environment (in this study, the air - where it is almost impossible to control information that would guide the practitioners’ decisions) calls for a more urgent need to learn how to read obstacles to decide the best intervention. This uncertainty and lack of information are the main challengers of this practice. Dealing with it triggers the boldness and the pleasure practitioners feel when practicing this activity.

Table 2. Practitioners’ perception of the importance of equipment quality and mastering flight technique

CLASS	ITEMS SURVEYED -F(%)		
	Mastering flight technique	Verification of the safety level of the equipment	Importance of checking the equipment before flight
Extremely(+)	88.07	54.13	75.23
Enough(+)	11.93	34.86	24.77
A little(+)	0	11.01	0
TOTAL	100	100	100

Table 3. Practitioners’ perceptions of the flight procedures

CLASS	ITEMS SURVEYED- F (%)	
	Prior consideration of meteorology	Prior knowledge of the natural environment
Extremely(+)	33.02	18.35
Enough(+)	26.60	25.69
A little(+)	22.02	29.36
Neither(+/-)	12.85	16.51
A little(-)	5.51	10.09
TOTAL	100	100

Table 4. Practitioners’ perceptions of preservation of physical integrity

CLASS	ITEMS SURVEYED - F (%)			
	Paragliding is a risky activity	I am at risk when I do not follow safety norms	I put other people’s lives at risk if I do not follow safety norms	Sensation of freedom and strong emotions outweigh the risks
Extremely (+)	42.20	32.11	16.51	38.53
Enough (+)	57.80	44.03	21.10	61.47
A little (+)	0	23.86	29.36	0
Neither (+/-)	0	0	11.01	0
A little (-)	0	0	22.02	0
TOTAL	100	100	100	100

The element of uncertainty in radical sports is also found in decision-making processes, (since making decisions also

involves risks) and the element of surprise is common in a system that relies on predictability and probability. This shows that, despite all the rationalization used to maximize the usefulness of the results, uncertainty will always be present - and so will the risks. Thus, the prudent practitioner must consider the natural environment, its variations and implications for the practice of a given modality of adventure sport[7].

Considering the perception practitioners have of paragliding as a risky practice, one can say that the risk experience deliberately chosen is more acceptable than the one imposed by everyday life circumstances. Although the feeling of freedom and thrill outweigh the risks in paragliding, practitioners cannot be interpreted as suicidal, but as individuals who enjoy risky situations and a sense of well-being[16]. Paragliders expose themselves to situations that allow them to calculate the risks and control the unpredictable. Le Breton warns against the counter-phobic attitude, in which an individual, rather than avoiding or escaping risky situations, confronts them[15]. It is a refined way of facing and dissipating fear to achieve a temporary sensation of victory.

As for the safety rules suggested by paragliding associations, federations, and confederations to avoid risky situations, practitioners were found to show a selfish attitude. They perceive their own risk but fail to perceive the risk inflicted to others when rules are ignored. Contradicting what was verified in this study, we can say that risk appears in societies as an anthropological fact, urging human beings to feel concern and responsibility towards others and themselves to preserve their physical integrity[15,16]. However, it seems that human beings still lack a sense of collective awareness.

5. Conclusions

The popularity of adventure sports and calculated risk activities in natural environments has increased, worldwide. Terms and expressions, such as adrenaline, overcoming one's limits, and vertigo, have become part of everyday vocabulary, bringing to our mind strong sensations, and images of the risks experienced in these activities.

Risk, as perceived by paragliding practitioners, is freely chosen. This is the most genuine form of adventure-risk in a ludic sense, since the attitude of those experiencing adventure-risk at the moment of flight is daring, but based on their confidence in technique mastery and equipment quality - the result of continuous technological advances. Their bold attitude is ignited by the belief of being capable of launching themselves into space, challenging nature's obstacles, combined with an exciting and refreshing pleasure of successfully carrying out an established flight program.

Therefore, based on the results of this study, it can be concluded that the greatest challenge faced by paragliding practitioners is to become aware of the meaning and implications of risk to their physical integrity. Besides feeling

confident in mastering the technique, and in the sophisticated equipment available, practitioners must realize that a safe and successful flight is as important as the thrill, the excitement, and the vertigo experienced.

Finally, due to the increasing number of practitioners of the different modalities of adventure sport in nature, and, in particular, related to free flight, such as paragliding, the importance of further academic studies seeking to understand the need for strong emotions under the aegis of risk by contemporary practitioners must be emphasized.

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