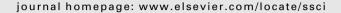


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Risk perception and risk-taking among skateboarders



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ABSTRACT

Skateboarding is considered to be a high risk activity. Although many studies have identified risk factors associated with skateboarding injuries, few have provided detailed in-depth knowledge on participants' psychological dispositions towards risk behaviors. The aim of this study was to identify individual factors associated with risk perception and risk-taking among skateboarders. Telephone interviews were conducted with 158 skateboarders (mean age = 18.1 years) recruited in 11 Montreal skateparks. Age, self-efficacy, previous injuries, fear of being injured, sensation seeking and experience level were all included in two linear regression models that were run for risk perception and risk-taking. Age, experience level, sensation seeking, and risk perception are significant explanatory variables of risk-taking. Results show that sensation seeking was the only significant factor associated with risk perception. These results allow for a better understanding of the behavior of skateboarders, they highlight the importance of impulsive sensation seeking in risk perception as well as risk-taking. This study characterizes skateboarders who take risks and provides additional information on interventions for injury prevention.

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1. Introduction

In recent years, the popularity of risk-oriented sports has increased in our society despite the number of injuries and the risks associated with these activities (Llewellyn et al., 2008; Pain and Pain, 2005; Turner et al., 2004). In this respect, skateboarding has often been singled out because of the incidence and type of injuries (fractures, contusions, strains, sprains, and lacerations of the lower arm, lower leg, head, and face) (Rainville et al., 2010). Even if the number of deaths is small, the number of injuries sustained is large. As within many areas of North America and Europe, skateboarding has become a mainstream activity in the province of Québec, especially amongst male youths (Hamel and Goulet, 2006). A government report on injuries indicated that the annual rate of reported injuries that require medical attention was 26/1000 skateboarders in Québec (ranked 12th among sports activities) and 35/1000 skateboarders in Montreal (ranked 7th) (Hamel and Goulet, 2006).

Although many studies have identified several risk factors associated with skateboarding injuries (i.e., speed, equipment failure, level of experience, risk perception, age, practice locations), few have pro-

* Corresponding author. E-mail address: lkern@u-paris10.fr (L. Kern). vided detailed and in-depth knowledge on participants' psychological dispositions towards risk behaviors. Yet, knowledge of these psychological factors can enable us to better understand how risk takers function, which in turn allows us to propose more effective interventions. From the perspective of sports injury prevention, a study on risk perception, self-efficacy and sensation seeking among skateboarders would allow us to better understand risk-taking in this sport. Indeed, Llewellyn et al. (2008) demonstrate the relationship between self-efficacy and risk-taking in rock climbing and other risk sports, while Kontos (2004) shows that low levels of perceived risk are associated with a significant increase in risk of injury.

We conducted a study among 158 skateboarders to explore the factors associated with risk perception and risk-taking, by integrating elements of two concepts, namely sensation seeking and self-efficacy. Zuckerman's (1974) concept of sensation seeking is often put forward to explore risk behaviors; more recently, Llewellyn et al. (2008) analyzed the relationships between Bandura's (1977) social cognitive theory variables and risk behaviors.

1.1. Risk-taking and risk perception

Risk-taking can be defined as a decision involving a choice that is characterized by a degree of uncertainty with respect to the probability of failure or success (Michel et al., 2001). More specifically, risk-taking behavior has been defined "as either a socially unacceptable volitional behavior with a potentially negative outcome in which precautions are not taken (e.g., speeding, drinking and driving) or a socially accepted behavior in which the danger is recognized (competitive sports, skydiving) (Turner et al., 2004, p. 93).

According to Davis-Berman and Berman (2002), understanding risk-taking cannot be done without reflection on the perceived risks. For these authors, "perceived risk involves a subjective perception of the potential for injury or death inherent in an activity" (Davis-Berman and Berman, 2002, p. 306). More specifically, several studies have reported an association between risk behaviors and risk perception in sports and recreation activities (Ajcardi and Therme, 2008; Curry and Youngblade, 2006). Thus, risk perceptions are linked to risk behaviors on a theoretical level as much as on an empirical level (Fishbein, 2003; Halpern-Felsher et al., 2004).

The classic theoretical prediction of the relationship between risk perception and risk-taking is the negative (protective) correlation between risk-taking and risk perception, which means that the greater the risk, the less likely the person will be to engage in the behavior in question (Mills et al., 2008). In contrast, the opposite positive relationship is also observed: a person with an increased perception of risk will have a greater tendency to engage in risky behavior (Johnson et al., 2002; Mills et al., 2008; Reyna and Farley, 2006). For instance, throughout adolescence, risk-taking has been shown to be instrumental to social integration (Michel et al., 2001). In a qualitative study on skateboarding injuries, adult skateboarders were less inclined than their younger counterparts to take risks due to the threat that injuries pose to their ability to work and to their economic independence (Dumas and Laforest, 2009). In this respect, risk-taking is context-specific and dependent on perceived benefits.

1.2. Self-efficacy, sensation seeking, risk perception and risk-taking

Bandura (1997) puts forward the hypothesis that people take risks because they feel that they are capable of handling the situation and have a sense of increased self-efficacy. Self-efficacy refers to "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1997, p. 3). People with high levels of perceived capabilities are more likely to challenge themselves, mobilize efforts and persist for a longer period of time in the face of difficulty (Bandura, 1997). For Slanger and Rudestam (1997), executing a risky manoeuvre depends on the degree of confidence in one's ability to succeed. Hence, athletes demonstrating high self-efficacy would be more likely to engage in risky behaviors. From this perspective, the most important decisional factor among risky sports enthusiasts is self-efficacy.

Several studies also analyzed the relationship between sensation seeking and risk-taking in sports activities (De Vries et al., 2009; Kajtna and Matej, 2004; Slanger and Rudestam, 1997). For instance, sensation seeking has been found to be a significant correlate of a range of high-risk behaviors, such as drinking, smoking, drug use, and risky sexual behaviors (Zuckerman (1979)). For Zuckerman (1994, p. 27), sensation seeking is a trait that is defined as "the seeking of varied, novel, complex, and intense sensations and experiences and the willingness to take physical, social, legal, and financial risks for the sake of such experiences". In general, research tends to place sensation seeking in the category of impulsive and deviant conduct and associate it with other personality variables such as extraversion (Carton, 2005).

Several studies examined the roles of self-efficacy and sensation seeking in risk-taking behaviors (Llewellyn and Sanchez, 2008; Llewellyn et al., 2008; Slanger and Rudestam, 1997). Their conclusions

suggest that the level of self-efficacy is higher among those who take extreme risks than those who take less risk. Slanger did not highlight a relationship between sensation seeking and risk-taking, while Llewellyn and his collaborators reported positive and significant associations between sensation seeking and risk-taking. These associations are attenuated, although still significant, when the authors take into account age, gender, and years of experience in the activity of choice (Llewellyn and Sanchez, 2008).

To our knowledge, there have not been any studies that explored the joint relationship of risk perception, risk-taking, self-efficacy and sensation seeking in skateboarding. It is the first time that these concepts have been studied together and we argue that this will enable us to better understand the perception of skateboarders By taking into account these variables, both dispositional (sensation seeking) and sociocognitive (risk perception, self-efficacy...), we can understand, explain and predict people's behavior. The sociocognitive and dispositional variables can serve as the impetus for proposing avenues for reflection in order to develop prevention programs. The objectives of this study were to identify the individual-level factors (age, socioeconomic status, experience, previous injuries, fear of being injured, self-efficacy and sensation seeking) associated with (1) risk perception and (2) risk-taking among skateboarders.

2. Materials and methods

2.1. Research design and study population

Objectives were addressed using a cross-sectional research design. Telephone interviews were conducted among 158 skateboarders aged 8-37 years. Participants were recruited from 11 outdoor skateparks, comprising a representative sample of the 31 outdoor skateparks in Montreal. The selected parks were chosen in order to be as representative as possible of skateboarders and the skateboarding practice. They were located in different geographical areas of the city, in both supervised and unsupervised settings, characterized by different levels of difficulty, and frequented by groups of different socioeconomic status. Participants were recruited over two separate periods. First, in the summer of 2005, an initial study was conducted to build a profile of the injuries of all skateboarders who frequented skateparks. Research assistants recorded the address and telephone number of the 337 skateboarders in a registry, comprising the first pool of potential participants for the current study. A second recruitment period was conducted the following summer in order to improve the statistical power; 146 additional skateboarders were recruited in the 11 selected parks. In 2007, the project coordinator attempted to contact all 483 skateboarders identified in the summers of 2005 and 2006 to participate in the current study. In total, 272 individuals could not be reached (no answer/wrong number), 49 declined the offer to participate and four people did not meet the inclusion criteria (Speaking French or English, older than 8 years old, having skateboarded in the previous year, living in Montreal, having accepted to participate and returned the consent form). As such, 158 skateboarders completed the telephone questionnaire. All skateboarders who had reached the age of majority (18 years old), as well as the parents of the younger skateboarders, signed a consent form. This study was approved by the Ethics Committee of Université de Montréal.

2.2. Measurement instruments

The telephone questionnaire consisted of items that aimed to describe the characteristics and practice of skateboarders, as well as scales that were subject to psychometric validation (temporal

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