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BRIEF REPORT

Employee Perception of a Mandated Helmet Policy at Vail Resorts

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Objective.—The purpose of this study was to measure support for a mandated helmet policy among resort employees along with the impact of such a policy on job satisfaction, and additionally, to measure the prevalence of barriers to helmet use among this population.

Methods.—In all, 728 Vail Resort employees were surveyed regarding their opinions on the helmet policy and on general helmet use.

Results.—The majority of the 728 employees surveyed (66.5%; 95% CI: 63% to 70%) agreed with the helmet policy. Only 18% (95% CI: 16% to 21%) reported a negative effect on job satisfaction. Older employees (>25 years old) were more likely to disagree with the policy (odds ratio [OR] 3.1; 95% CI: 2.2 to 4.3) and report a negative effect on job satisfaction (OR 4.8; 95% CI: 3.0 to 7.6). Skiers were much more likely than snowboarders to report a negative effect on job satisfaction (OR 9.8; 95% CI: 5.2 to 18.1). Among resort employees, ski patrollers were more likely to disagree with the mandate (OR 9.8; 95% CI: 6.8 to 13.9) and report a negative effect on job satisfaction (OR 13.2; 95% CI: 8.3 to 21.). Forty-three percent of participants (95% CI: 39% to 46%) agreed with the statement that wearing a helmet encourages reckless behavior whereas 51.0% (95% CI: 47% to 54%) believed that wearing a helmet limits sensory perception.

Conclusions.—A mandatory helmet use policy was supported by most resort employees. However, ski patrollers and older, more experienced employees were more likely to report a negative effect on job satisfaction. Barriers to helmet use continue to persist in the ski industry and represent a target for further educational efforts.

Key words: helmet, head injury, brain injury, skiing, snowboarding

Introduction

Alpine skiing and snowboarding are popular recreational winter activities, with an estimated 13 million participants during the 2010 ski season in the United States. Participation in snow sports conveys a relatively high risk of injury: more than 10,000 traumatic brain injuries related to skiing or snowboarding were seen in US emergency departments in 2002 alone.[1] Head injuries are a leading cause of hospital admission and account for a majority of fatalities due to downhill skiing or snowboarding.[2]

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In 1999 the Consumer Product Safety Commission published a report projecting a 44% reduction in head injuries with the adoption of universal helmet use for alpine skiing and snowboarding, and a recent meta-analysis reported a 35% reduction in head injury among persons wearing helmets.[3,4] However, skepticism persists within both the lay public and ski industry regarding the efficacy of helmets for snow sports. In spite of this skepticism, helmet use among skiers and snowboarders has increased over the past decade. The National Ski Areas Association estimated 25% of snow sport participants used a helmet during the 2002 to 2003 ski season compared with 61% in the 2010 to 2011 season. Proposed explanations for the increase in helmet use have included improved helmet comfort, educational initiatives, and widely publicized deaths of celebrities while skiing. Role modeling by professional skiers and

snowboarders who wear helmets may also have a role in increasing helmet use.[5]

Despite evidence that helmets reduce traumatic brain injuries during snow sports, numerous barriers to helmet use remain. Historical arguments against helmet use have included the cost of helmets, the possibility that helmet use increases reckless behavior (the "risk compensation" theory), the possibility of increased neck injuries, and limited sensory perception as common reasons not to wear a helmet. Many of these barriers are "myths" and have been disproven.[6–8] Helmet mandates for motorcyclists have been employed to counteract similar barriers and have successfully increased helmet use and reduced traumatic brain injuries.[9] Similar mandates have been proposed for the ski industry but remain controversial.[10]

Before the 2009 to 2010 ski season, Vail Resorts enacted a policy mandating all employees wear a helmet while on the job skiing or snowboarding. This study sought primarily to measure support for this policy among resort employees and its impact on job satisfaction. As a secondary objective, this study sought to measure the prevalence of previously identified barriers to helmet use, such as the perceived increased risk of cervical injuries and the belief that wearing a helmet encourages reckless behavior.

Methods

From October 2008 through January 2009, a 22-item questionnaire was distributed to a convenience sample of Vail Resorts employees. Survey respondents included lift operators, ski and snowboard instructors, ski patrollers, and managers at 5 Vail Resort Corporation ski areas (Vail, Beaver Creek, Keystone, Breckenridge, and Heavenly). The survey was administered during employee orientation or in-season training sessions and took approximately 5 minutes to complete. Before administering the survey, no targeted educational campaign regarding helmet use or the helmet mandate occurred at the resort. Participants were informed that the survey organizers were not affiliated with Vail Resorts. Informed consent was obtained from all participants. The University of Colorado Institutional Review Board reviewed and approved this study.

The survey included demographic and personal characteristics addressing age, sex, total work experience, seasons worked at Vail Resorts, and primary snow sport activity (alpine or telemark skiing vs snowboarding). The survey also included questions about the employee's skiing ability, job title, and employment status (full time vs part time). Participants were then surveyed regarding their agreement or disagreement with the mandated helmet policy and whether it had an effect on job satisfaction. The remaining questions measured the extent to which survey participants agreed or disagreed with previously identified barriers to helmet use. Examples included the following: "wearing a helmet encourages aggressive skiing/snowboarding and reckless behavior;" "wearing a helmet increases the likelihood of suffering a severe neck injury;" and "wearing a helmet while skiing/snowboarding limits sensory perception."

Demographic characteristics and responses of participants were summarized using proportions with 95% CI for categorical variables or medians and ranges for continuous variables. To calculate odds ratios (OR), work experience was dichotomized (fewer than 3 seasons vs 3 or more seasons), along with primary snow sport activity (alpine or telemark skier vs snowboarder). We conducted a post-hoc analysis to test the strength of the associations between agreement with the helmet policy, work experience, and primary snow sport activity. A multivariate logistic regression was used to control for age as a potential confounder. To measure the strength of these associations, OR and 95% CI were calculated.

Results

A tabular summary of the demographic characteristics and attitudes toward the helmet mandate is provided in Table 1. Also included are data regarding the survey participants agreement or disagreement with identified barriers to helmet use. The survey was completed by a convenience sample of 728 employees. Question-specific response rates ranged from 88.7% to 99.3%.

Sixty-five percent (95% CI: 63.0% to 69.9%) agreed with the mandatory helmet use policy. Older employees (>25 years old) were more likely to disagree with the policy (OR 3.1; 95% CI: 2.2 to 4.3). After controlling for age, ski patrollers and employees with 3 or more seasons of experience were much more likely to disagree with the policy, and skiers were more likely than snowboarders to disagree with the policy (Table 2).

Only 19% of participants (95% CI: 15.8% to 21.4%) reported a negative effect on job satisfaction. Older employees were more likely to report a negative effect on job satisfaction (OR 4.8; 95% CI: 3.0 to 7.6). Ski patrollers and more experienced employees were more likely to report a negative affect on job satisfaction (Table 3). Skiers were also more likely than snowboarders to report a negative affect on job satisfaction (Table 3).

Discussion

A majority of employees at Vail Resorts supported the implementation of a mandatory helmet use policy. Eighty-one percent indicated that the policy had either