



Environmental Sustainability in Winter Sports: Exploring Perceptions of Skiers and Snowboarders

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Introduction

Climate change is having drastic impacts on the ski industry with impacts to the economy, culture, and environment of ski resort towns. With rising temperatures comes reduced snowfall, melting snow, and ice (Wicker, 2018). Research shows that 79% of skiers surveyed believe that global warming is having negative effects on the ski industry (Wicker, 2018). The question is, what are the ski industries and skiers/snowboarders doing about it? Utah ski tourism is a \$1.8 billion industry with low snowfall seasons having a 7% reduction in revenue (Wilkins et al., 2021). This decrease in economic activity not only affects ski resorts, but the local community members as well (Wilkins et al., 2021).

One issue regarding sustainable resorts is our ability to understand, assess, and weigh sustainability claims. The literature on green purchase choices reveals the importance of environmental knowledge, awareness, concern and attitude, availability of product information and product availability, as well as perceived consumer effectiveness and transparency from the company (Coghlan, 2019). Attitude is understood as an acquired predisposition to respond in a consistently favorable or unfavorable manner with respect to the environment (Kaiser, Wölfig, & Fuhrer 1999) . By understanding the environmental knowledge and attitudes of winter recreationists, we seek to determine how to promote pro-environmental behaviors. Therefore, the purpose of this study is to understand the perceptions and attitudes of skiers and snowboarders related to sustainability in winter sports.

Objectives

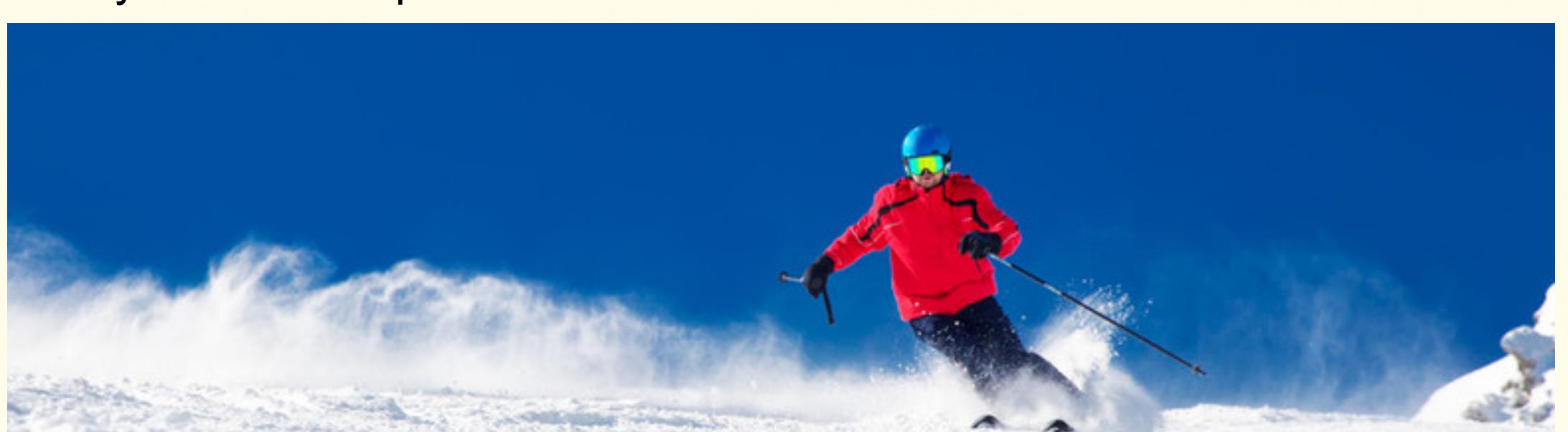
1. Determine what is important to skiers and snowboarders when deciding where to ski.
2. Determine what skiers and snowboarders think is most important to a ski resort's reputation as it relates to sustainability.
3. Identify what skiers and snowboarders believe they can do to be sustainable in winter sports.
4. Identify what skiers and snowboarders believe ski resorts can do to be sustainable.
5. Explore the role of experience of skiers/snowboarders as it relates to sustainability perceptions.

Methods

This study was conducted over the course of three days during the winter of 2022. Data were collected by surveying skiers and snowboarders enrolled in a WSU course at Powder Mountain Ski Resort. A total of 59 participants were surveyed. Of the participants surveyed 51% were male and 48% were female. A total of 37% of those surveyed identified as skiers, 61% identified as snowboarders, and 1% identified as other. The participants had the following variance in how many seasons they had been skiing/snowboarding, first season: 26%, 1-2 seasons: 15%, 3-5 seasons: 19%, 5-10 seasons: 20%, and 10+ seasons: 20%. Approximately 85% identified as White, 2% American Indian or Alaska Native, 7% Asian, 2% Native Hawaiian or Pacific Islander, 4% other. Of our participants, 15% had a yearly income of less than 10,000 dollars, 15% made between 10 and 19,999 dollars, 8% made between 20 and 29,999 dollars, 8% made between 30 and 39,999 dollars, 5% made between 40 and 49,999 dollars and 49% made 50 thousand dollars or more a year. Finally, of our participants 5% have a high school diploma, 34% have some college but no degree, 32% have an associate degree, 17% have a bachelor's degree, 10% have a masters degree, and 2% have a doctorate degree.

Methods Continued

Research participants were asked to complete an online survey that consisted of 48 items. The survey was based on an adapted version of the New Ecological Paradigm scale that explores environmental attitudes in a winter sports context, as well as an assessment of pro-environmental practices that resorts can adopt to promote more sustainable practices (see Williams, Reilly, & Haider, 2006; Dunlap, Van Liere, Mertig, et al., 2000). Items on the questionnaire included questions such as, How important are the following when choosing a mountain resort destination; minimizing energy consumption for lifts, minimizing environmental effects of transportation to and from the ski hill, minimizing environmental effects of transportation to and from the ski hill, minimizing the environmental effects of ski run construction (rock blasting and slope grading), mitigating any effects of ski run construction on the vegetation, mostly visible during the summer, minimizing energy and water consumption of food services on the mountain, and reducing energy consumption by not providing night skiing opportunities?; Respondents were also asked to answer an open-ended question regarding the most important thing winter recreationists can do to promote sustainability as well as what ski resorts can do to promote more environmentally sustainable practices.



Results

More than half of the respondents had been active in winter sports for less than five years, many of whom it was their first season trying it out. The survey found that respondents with more experience preferred better snow conditions while those who were new to ski resorts preferred a cheaper ticket. Those who chose ticket pricings as their main concern when deciding what resort to go to coincidentally were also college students with a smaller income.

The most common choice from the respondents when asked what they, as well as ski resorts, can do to promote sustainability was an unsure response. The results showed that skiers and snowboarders with little experience had less knowledge about the impacts that they and resorts had on the environment, ecosystem, and culture. This was shown by having the majority choice be an unsure response. Respondents with more experience seemed to have a better understanding of the resorts and their own impacts on the environment, culture, and ecology by expressing that awareness about these issues and informing people associating with winter sports is the most important thing to be done. Different practices for sustainability were also recommended by experienced riders.

This study also showed a difference in perceptions of sustainability between novice and expert riders. Experienced riders identified snow conditions as a more important factor in deciding where to ski/ride. They also identified a greater understanding of sustainable practices. Novice riders were less aware of positive practices and thought locations and price were more important.

Figure 1 - (Objective 1)

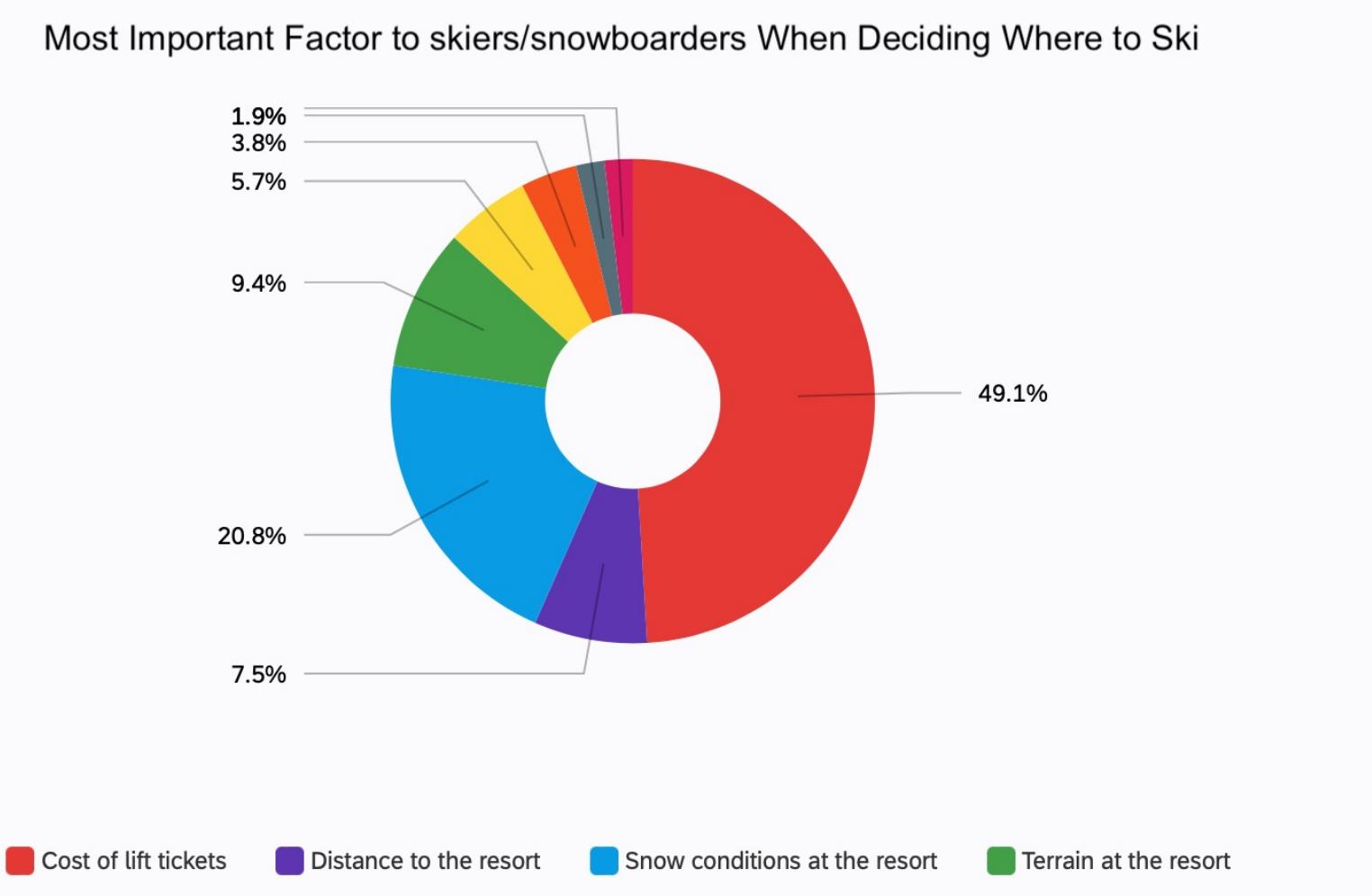


Figure 2 – (Objective 2)

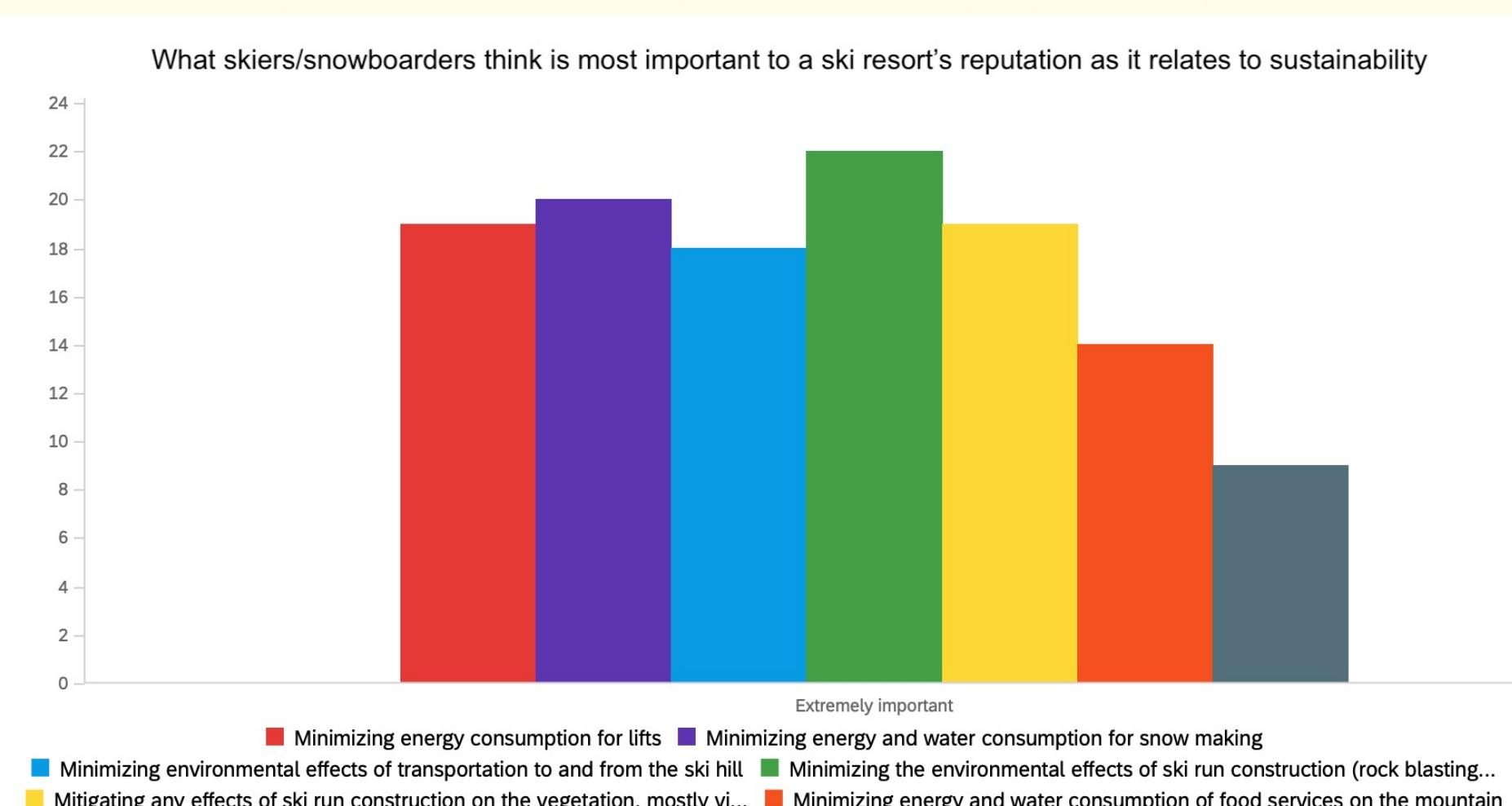


Figure 3 – (Objective 3)

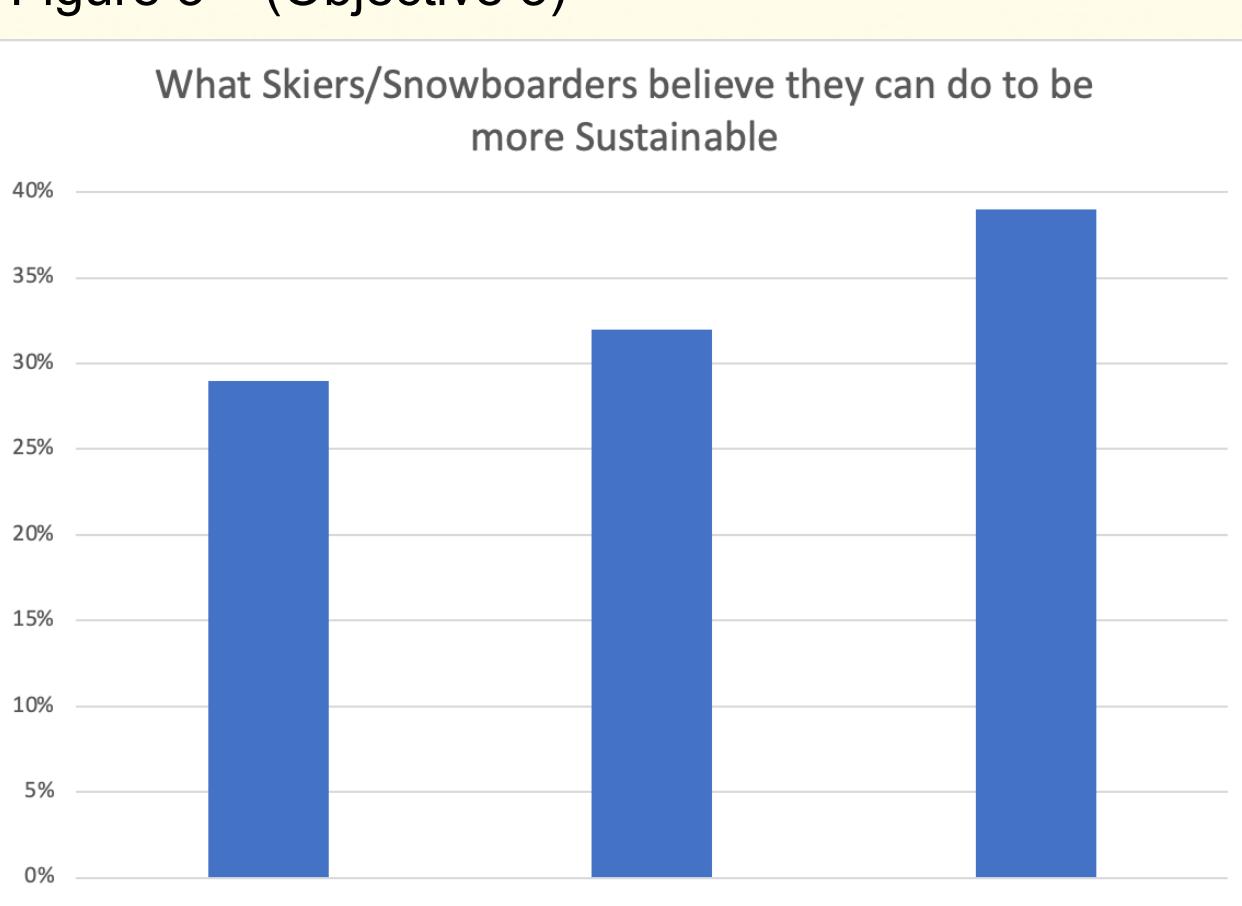
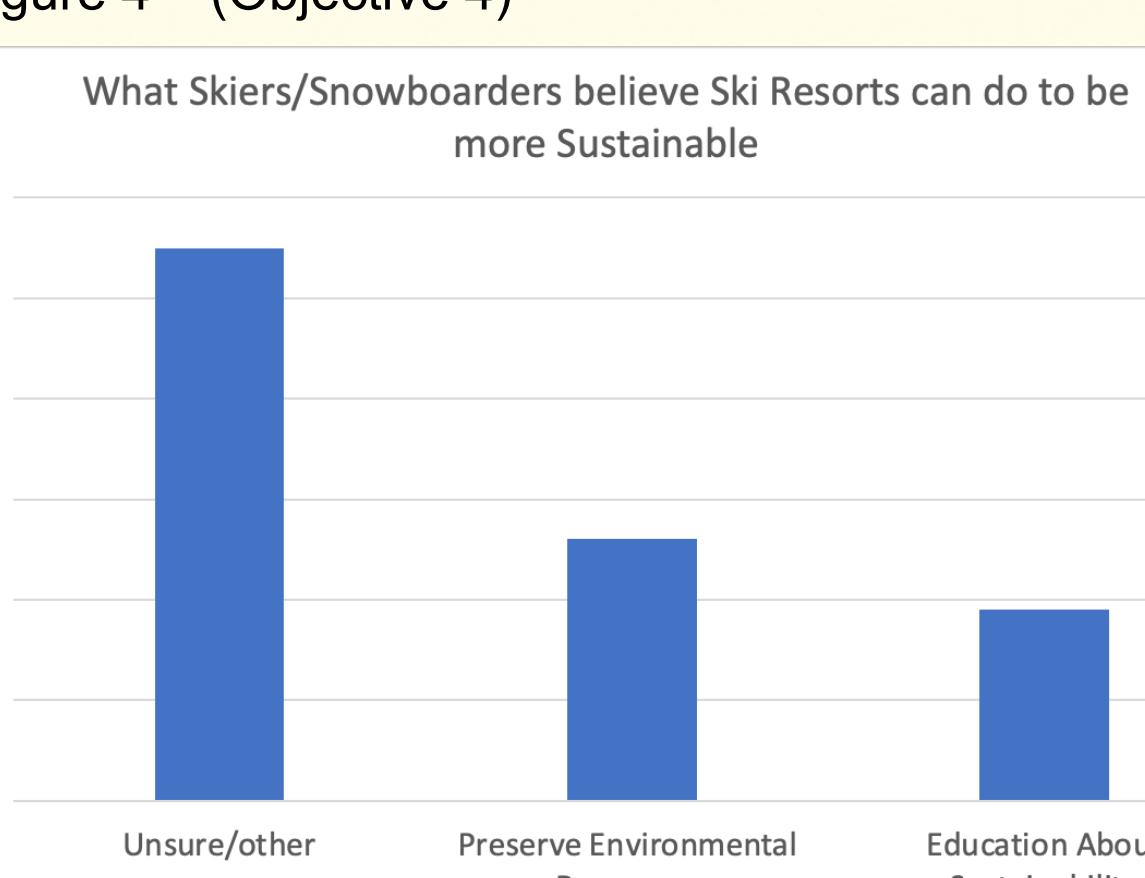


Figure 4 – (Objective 4)



Conclusions

Based on our findings we can conclude that most skiers and snowboarders are unsure about what they personally can do to be more sustainable in their winter recreation. We also found that most skiers and snowboarders are unsure about what ski resorts can do to be more sustainable. This shows that there is a potential lack of education about sustainability. This shows there may be a lack of awareness about what sustainability in winter sports looks like. We also found that the most important factor skiers and snowboarders consider when choosing a place to ski is cost. We also found that 40.7% of skiers and snowboarders surveyed thought that minimizing environmental effects of ski run construction is extremely important to a resort's reputation and that minimizing the environmental effects of transportation to and from the ski hill was somewhat important to a resort's reputation. However, there appears to be a discrepancy between what respondents say resorts should do and what individual users should do. For example, only 1.9% of respondents said that public transportation to a resort was an important factor when deciding where to ski.

Implications for Practice

Given these findings the recommendations we would give are to increase education and information available to those at ski resorts about sustainable practices. This can be done by having ski resorts be transparent about what positive sustainable practices they are implementing as well as give suggestions about what riders can do. Posters should have a positive message about how skiers and resorts can both contribute to keeping the environment sustainable. Research also shows that participants who saw negative impacts of pollution felt as though the damage had already been done and there was no point in changing their actions. People who saw positive messages and images felt as though they could have a strong impact on the prevention of pollution. Positive light shed on an issue makes people more willing to want to do something about it compared to a negative perspective because there is a belief that they can make a difference. (Jordan, 2018).

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