

How to involve retailers into sensitization of end-users for ecologically responsible behavior – results of a snow-shoe-seller survey

Marcel Hunziker and Dominik Schletti

Abstract — The outdoor activity snow-shoe walking is experiencing an increase in popularity and is more and more frequently practiced. This tendency represents a desirable development of soft tourism, contributes to the regional economical development of remote areas and enables people to experience pure nature. However, snow-shoe walking is rather problematic from the perspective of nature conservation. Therefore, the willingness of snow-shoe walkers to change their behavior has been investigated in several studies. One opportunity to influencing the behavior of snow-shoe walkers is when they buy or rent the snow shoes. However, the question remained whether shop owners and their staff are willing to adopt this role. The aim of our study was to answer this question and to identify the drivers of their willingness to contribute to persuading snow-shoe walkers to behave in an ecologically responsible way. A questionnaire was sent to 754 sports shops in Switzerland to measure the willingness to apply measures of persuasion and to measure the drivers of this willingness. The questionnaire data show that the willingness to contribute to persuasion campaigns is rather small. In particular, the potential for participation in the persuasion work is quite low for contributions that require high efforts or costs. The variables “subjectively perceived social norms”, “attitude to the behavior” and “attitude to information about the protection of nature and landscape” represent the strongest predictors of the willingness to contribute to the campaign. On the basis of the results, suggestions for measures to persuade snow-shoe sellers to support persuasion of snow-shoe walkers were developed.

Index Terms — ecological conflicts, outdoor recreation, persuasion, questionnaire, theory of planned behavior



1 INTRODUCTION

Snow-shoe walking is experiencing an increase in popularity and is more and more frequently practiced. An explanation is that it is easy to learn, requires little equipment, and can be practiced in almost all areas where snow is found, without dependence on transport facilities.

The rise of snow-shoe walking represents a desirable development of soft tourism, contributes to the regional economical development of remote areas, and enables people to experience pure nature. However, snow-shoe walking is rather problematic from the perspective of nature conservation. Snow-shoe walkers often visit areas that are otherwise untouched by winter sports such as skiing, snow-boarding or ski-touring since they do not satisfy the requirements of slope quality and steepness. Therefore, snow-shoe walkers often cross habitats of wildlife such as the capercaillie and grouse, which are sensitive to the presence of humans [1]. Since such habitats are often considered as nature conservation zones, conflicts with nature conser-

M. Hunziker is with the Swiss Fed. Res. Inst. WSL, 8903 Birmensdorf, Switzerland.

E-mail: hunziker@wsl.ch

D. Schletti is with the Dept. of Psych., Univ. Zurich, 8050 Zurich, Switzerland.

E-mail: dominik.schletti@access.uzh.ch

vation organizations and authorities occur. However, as is known from former studies, e.g. [2], many snow-shoe walkers have limited knowledge of Alpine winter nature and are not conscious about the negative consequences of their activity on wildlife.

In the cited study and others, e.g. [3], it has been investigated how the behavior of snow-shoe walkers and participants in other winter-sports can be directly influenced by on site measures, such as information panels and suggested codes of conduct. However, these studies also concluded that early information and persuasion of snow-shoe walkers, before they start their trip or even before they start planning their trip, would enhance the success of campaigns. One opportunity to influence snow-shoe walkers is when they buy or rent the snow shoes. However, the question remained whether the shop owners, and their personnel, are willing to take this opportunity.

The aim of our study was to answer this question and to identify the drivers of their willingness to contribute to the persuasion of the snow-shoe walkers to behave in an ecologically responsible way.

2 STATE OF RESEARCH AND THEORETICAL APPROACH

According to [2], much research has dealt with the description and analysis of social and ecological conflicts involving outdoor activities, e.g. [4], [5]. Even though snowshoe walking is a rather new activity, we were able to base our work on previously conducted research. From a survey of Swiss snow-shoe walkers, we know that they are willing to avoid protected areas if they are informed [6]. On the other hand, a survey of more than 350 foresters showed that forest visitors often ignore behavior directives and that snowshoe walking still causes severe ecological problems, especially in sub-Alpine areas [7].

In social psychology there is an extensive body of research dealing with the explanation of attitude, behavior, behavioral change, and their interrelations, e.g. [8], [9], as it is stated

by [2]. An important starting point of such research has often been the theory of planned behavior [10]. It has been applied in various fields of environmental psychology, and there have also been first attempts to apply it in the context of recreation activities, e.g. [3], [11]. Therefore it served as a theoretical basis of our study, which aimed to predict the willingness of snow-shoe sellers to support measures of sensitization of snow-shoe walkers to nature and nature-responsible behavior.

3 RESEARCH QUESTIONS AND HYPOTHESES

Our specific research questions were as follows: (1) Are snow-shoe sellers willing to sensitize snow-shoe walkers to nature and nature-responsible behavior? (2) Which measures would be the most and least supported by the sellers? (3) Are there any differences in willingness between different types of snow-shoe sellers? (4) Which factors predict willingness?

No theory-based hypotheses could be established with regard to research questions 1, 2 and 3, so these questions were addressed by an inductive research method.

Research question 4 allowed the formulation of a first hypothesis, based on the theory of planned behavior [10], which was tested by empirical investigation. We assumed that the willingness to sensitize is dependent on the "Ajzen-factors" (a) the sellers attitudes towards sensitization (do they find sensitization good/necessary), (b) their subjective norms (their perception of the related attitudes of their relevant social group), and (c) their perceived behavior control (do they perceive possibilities to actually behave in the desired way).

Former research [3] further suggested that the attitude towards intervention measures also predicts willingness to sensitize (hypothesis 2).

In a third hypothesis we propose that willingness also depends on the sellers' knowledge of ecological issues [12] and from their general environmental consciousness [13].

In accordance with the literature, we further hypothesize (hypothesis 4) that these two factors also influence some of the predictors of willingness, namely attitudes towards sensitization behavior and attitudes towards intervention measures.

4 METHODS

For the measurement of the willingness to apply measures of persuasion and for the measurement of the predictors of this willingness, a highly standardized questionnaire was sent to mountaineering and sports shops (with mountain equipment) and to the main distributors of snow-shoes in the German- and French-speaking parts of Switzerland. Shop owners, relevant department heads, marketing communication and sales managers, and the sales staff represented the sampling universe. Questionnaires were sent to a random sample of 754 people and 108 questionnaires were returned (response rate: 14.5%). The questionnaire included questions regarding willingness to sensitize as well as items to operationalize its predictors.

5 RESULTS

Research questions 1 and 2 are answered by the descriptive results of the survey. They show that the willingness to support sensitization campaigns highly depends from the measure that would be applied. Simply handing out or providing information leaflets is well accepted. Willingness to try to persuade clients by using oral hints is also reasonably high. All other measures, even just pinning up posters are less preferred. In particular, snow-shoe sellers rather reject investing time resources, such as would be needed to attend education programs or meetings with interest groups. They also reject explicit installations in their shops such as video presentations or an information booth. Least preferred are monetary interventions such as asking the buyers of snow shoes to pay an additional

amount in order to support information campaigns or conservation measures.

On a scale from 0 (no willingness at all) to 4 (high willingness), the willingness value varied from 3.5 (handing out information leaflets) to 0.2 (asking for co-financing campaigns). The average willingness for all the different measures was 2.19 (SD=0.72). Thus, general willingness to support sensitization campaigns was not very high among the snow-shoe sellers. In addition, the large standard deviation shows that there are considerable differences between the individual sellers.

The latter leads to research question 3. The statistical analyses revealed highly significant differences between sellers who are members of environmental conservation organizations such as WWF. They are considerably more willing to support sensitization than the non-members. The same applies for mountain guides, tour leaders and the personnel of shops offering snow-shoe tours.

Research question 4 was answered by regressing all possible predictors of the willingness to sensitize with the dependent variable "willingness". The following potential predictors were included in different regression models (multivariate and univariate, stepwise and full, etc.): attitude towards behavior, subjective norm, perceived behavior control, general environmental consciousness, attitude towards information campaigns, attitude towards restrictions, and knowledge of the ecological effects of snow-shoe walking. All these predictors represented factors summarizing several single items of the questionnaire. No multi-collinearity problems could be observed.

The stepwise model revealed that willingness to support sensitization can be very well narrowed down to three predictors, which explain more than 60% of the variance of the willingness (adj. $R^2=61.9\%$). The most important predictor is the subjective norm, i.e., the attitudes of the relevant other people of the seller, in particular, the chief and the colleagues in the shop ($\beta=0.47$; $p=0.000$). As second, the attitude towards information

campaigns proved to highly influence the willingness ($\beta=0.26$; $p=0.000$), and third, the attitude towards the behavior was also important, i.e., the fact whether the seller perceives sensitization activities as something good or not ($\beta=0.21$; $p=0.045$).

Univariate regressions, between those predictors that were not significant in the multivariate models and the depend variable, revealed that perceived behavior control, general environmental consciousness and the attitude towards restrictions also significantly affect the willingness. However, the beta-values and the partial R^2 s remained small. Even in the univariate models, knowledge of ecological issues did not significantly influence the willingness to sensitize.

We then analyzed whether general environmental consciousness and knowledge about ecological issues influence the attitude towards sensitization behavior and the attitude towards intervention measures. This was the case for general environmental consciousness, but not for knowledge about ecological issues.

6 DISCUSSION AND CONCLUSIONS

The descriptive findings regarding the research questions 1-3 show that the willingness of snow-shoe sellers to support sensitization is not very large, depends on sensitization measures and varies considerably between different seller types. These findings reveal that the sellers' willingness to sensitize does differ from the generally quite high willingness of the public to actually behave in an ecologically responsible way during snow-shoe trips [2], [6]. This might be explained by the fact that Snow-shoe walkers are usually already highly sensitive with regard to nature, while this is not automatically the case for the snow-shoe sellers, who partly do not actually participate snow shoeing. The latter corresponds well with the result that those sellers who are actively involved in snow-shoe activities (mountain guides etc.) accept sensitization

efforts more than others. For practical implementation of these results we can conclude the following. Information provided by the sellers would be very effective since snow-shoe walkers are already highly willing to behave in an ecologically responsible way, but often have insufficient knowledge of how to do so. However, as the sellers are unwilling to actively sensitize and inform the buyers, sensitization campaigns that are directed to the sellers might be more effective in influencing the behavior of the snow-shoe walkers.

Based on the statistical analyses, hypothesis 1 and 2 (prediction of willingness by the "Ajzen-factors" and by attitudes towards intervention measures) can partly be accepted. This corresponds well with the theory of Aizen and Madden and many other former research results, which, however, focused on actual outdoor-recreation behavior and not on the "selling and sensitization behavior". This corroborates the general validity of the theory of planned behavior and helps to find adequate solutions, based on findings of intervention research in other contexts. Hypothesis 3 (prediction of willingness to sensitize by knowledge and general environmental consciousness), however, must be rejected and hypothesis 4 can only be accepted for general environmental consciousness. This corroborates the assumption of [13] that environmental consciousness represents a deeper-rooted predictor of many other environment-related attitudes. The non-effect of the knowledge also corresponds well with many former findings [3], [14], [15]. knowledge is often over weighted and does not help to persuade people in all cases.

The following hypothetical model is proposed as a summary of the results of the hypotheses testing: The willingness of snow-shoe sellers to support sensitization campaigns depends on their own attitude toward sensitization behavior, the attitudes of the relevant social group, which is in this case their supervisor and workmates (subjective norms), and the attitudes towards information

campaigns. The first and last of these are in turn influenced by the general environmental consciousness of the sellers. Knowledge of the ecological effects of snow-shoe walking, however, does not play an important role.

With regard to implementation activities, it can be concluded that if the snow-shoe sellers are to be persuaded to support, and undertake, information/sensitization campaigns – see conclusion above – then sensitization campaigns directed at the sellers are necessary. Therefore, providing ecological knowledge should not be a favored strategy but instead people who are relevant for the sellers (chiefs, colleagues, market competitors etc.) and already act in the desired direction should be introduced.

ACKNOWLEDGMENTS

We are grateful to Petra Vögeli, SAC, for initiating and co-supervising this study, to Prof. Heinz Gutscher, Psych. Dept. Univ. Zurich, for accepting this study as a master thesis of Dominik Schletti, and finally to Robert Home, WSL, for language corrections.

REFERENCES

- [1] Ingold, P., 2004: Freizeitaktivitäten im Lebensraum der Alpentiere: Konfliktbereiche zwischen Mensch und Tier - mit einem Ratgeber für die Praxis. Bern: Haupt.
- [2] Freuler, B. & Hunziker M., 2007: Recreation activities in protected areas: bridging the gap between the attitudes and behaviour of snowshoe walkers. *Forest Snow and Landscape Research* 81(1/2): 191–206.
- [3] Zeidenitz, C., Mosler, H.J. & Hunziker, M., 2007: Outdoor recreation: from analysing motivations to furthering ecologically responsible behaviour. *Forest Snow and Landscape Research* 81(1/2): 175–190.
- [4] Manning, R. E., 1999: *Studies in Outdoor Recreation*. Corvallis, Oregon State University Press.
- [5] Ammer, U. & Pröbstl, U., 1991: *Freizeit und Natur – Probleme und Lösungsmöglichkeiten einer ökologisch verträglichen Freizeitnutzung*. Hamburg, Parey.
- [6] Radü, G., 2004: *Schneeschuhsportarten – eine Trendsportart*. Geogr. Institut. Zürich, Univ. Zürich.
- [7] Freuler, B. & Hunziker, M., 2005: Lenkungsmaßnahmen zur Bewältigung von ökologischen und sozialen Nutzungskonflikten im Schweizer Wald. *Ergebnisse und Folgerungen aus einer Försterbefragung*. Eidg. Forschungsanstalt WSL, Birmensdorf.
- [8] Kaiser, F. G. & Gutscher, H., 2003: The Proposition of a General Version of the Theory of Planned Behavior: Predicting Ecological Behavior. *Journal of Applied Social Psychology* 33(3): 586–603.
- [9] Staats, H., 2003: *Understanding Proenvironmental Attitudes and Behavior: An Analysis and Review of Research Based on the Theory of Planned Behavior*. Psychological Theories for Environmental Issues. M. Bonnes, T. Lee and M. Bonaiuto. Hants, Ashgate: 171–201.
- [10] Ajzen, I. & Madden, T. J., 1986: Prediction of Goal-Directed Behaviour: Attitudes, Intentions, and Perceived behaviour control. *Journal of Experimental Social Psychology*, 22: 453–474.
- [11] Ajzen, I. & Driver, B. L., 1992: Application of the Theory of Planned Behavior to Leisure Choice. *Journal of Leisure Research* 24(3): 207–224.
- [12] Meinhold, J. L. & Malkus, A. J., 2005: Adolescent environmental behaviors: Can knowledge, attitudes, and self-efficacy make a difference? *Environment and Behavior*, 37(4), 511–532.
- [13] Stern, P. C, Dietz, T. & Guagnano, G. A., 1995: The new ecological paradigm in social-psychological context. *Environment and Behavior*, 27(6), 723–743.
- [14] Maloney, M. P. & Ward, M. P., 1973: Ecology: Let's hear from the people: An objective scale for the measurement of ecological attitudes and knowledge. *American Psychologist*, 28, 583–586.
- [15] Petty, R. E. & Cacioppo, J. T., 1986: Communication and persuasion. Central and peripheral routes to attitude change. New York, Springer.

M. Hunziker holds a Masters degree in Geography, Sociology and Tourism Research from University of Berne (1991), and a PhD in Geography from the University of Zurich (2000), where he is giving lectures. He is head of the research group “Social Sciences in Landscape Research” at the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL).

D. Schletti holds a Masters degree in Psychology, Psychopathology and Ethnomusicology from University of Zurich (2008).