Factors that Influence Concern About Human–Black Bear Interactions in Residential Settings

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Problematic human–black bear interactions have increased in North America. Research is needed to clarify influences on human concern about and reaction to bear behavior, such that wildlife managers can better understand and maintain stakeholder acceptance capacity for bears. This article uses mail survey data (n = 1,038, response rate = 42%) and structural equation modeling (SEM) to test a conceptual model of factors affecting concern about bears and predisposition to contact authorities for assistance. Findings support hypotheses that both variables are influenced by wildlife value orientation, personal experience with bears, and television viewing. Use of print media is not a predictor of concern or behavioral predisposition, leading to rejection of those hypotheses. Strong wildlife benefits beliefs and neutral personal experience with bear presence attenuate concern, while exposure to television has the opposite effect. Findings suggest that improving measures of personal experience and basic beliefs will strengthen models of bear-related concern.

Keywords behavioral predisposition, black bear, human–bear interaction, media use, risk perception, value orientations

Introduction

A combination of habitat improvement and legal protection during the 20th century has allowed the black bear (Ursus americanus) to repopulate much of its historic range. A resilient food generalist, the black bear has adapted to an environment increasingly altered and dominated by human use. Black bears now live in close proximity to humans in many locales across North America. In recent decades many states have witnessed substantial increases in black bear populations and human–bear interactions in residential areas. Complaints about negative human–bear interactions increased during the 1990s, especially in northeastern states (International Association of Fish and Wildlife Agencies [IAFWA], 2004). Wildlife agencies are concerned that public support for black bear
State wildlife agencies focus on complaint levels, but what they are attempting to manage is stakeholder concern about the threats bears pose to people, pets, and property. To diminish complaints, bear managers need research that will help them understand factors that raise or lower people’s concern about interactions with black bears in residential areas. We address this need by examining factors that were affecting stakeholder concerns about black bears and sensitivity to bear presence near homes in New York State at a time when human–bear conflicts were increasing and bear management was emerging as a public issue (Siemer, Decker, & Shanahan, 2007). This article uses structural equation modeling (SEM) to test an a priori model of factors affecting bear-related health and safety concerns and predisposition to contact authorities for assistance in resolving a perceived problem interaction with bears (i.e., behavioral predisposition). Based on tenets of the social amplification of risk framework and insights from empirical research, we constructed a conceptual model hypothesizing how personal attributes, value orientations, media use, and personal experience influence concern about bears and behavioral predisposition. We begin by describing the hypothesized relationships in our model, and then present results to test those hypotheses.

A Conceptual Model of Influences on Concern About Black Bears

The Social Amplification of Risk Framework and Concern About Bears

The social amplification of risk framework (SARF) (Kasperson et al., 1988; Pidgeon, Kasperson, & Slovic, 2003) posits that individuals’ risk perceptions are influenced as events and interactions are communicated through interpersonal and mass communication channels. Individuals and institutions serve as “amplification stations,” crafting and transmitting a variety of messages that communicate different risk signals. SARF also recognizes that social and psychological factors contribute to different interpretations of risk signals by individuals, and thus influence whether risk signals amplify or attenuate risk perceptions. Thus, SARF is useful for examining factors that may influence: (a) an individual’s concern about bear-related risks and (b) their behavioral reaction to the presence of bears in residential areas. The following sections outline our hypotheses of interrelationships between personal attributes, value orientations, media use, personal experience, concern about bears, and behavioral predisposition.

Media Use

Bear attacks on humans are very rare in North America (Herrero, 1985; Herrero & Fleck, 1990). Yet, because such attacks have increased (Herrero, 2005) and have immediate and sometimes catastrophic consequences for humans, researchers speculate that media coverage of such attacks may create increased dread, elevated risk perception, and reduced support for species conservation among some stakeholders (Riley & Decker, 2000a). News stories about wildlife often focus on negative human–wildlife interactions (Corbett, 1992), and coverage often increases after a dramatic event such as a cougar (Puma concolor) attacking a human (Wolch, Gullo, & Lassiter, 1997). Given that negative human–wildlife interactions have news value and receive media attention, it is useful for wildlife professionals to understand the wildlife-related risk signals communicated by mass media and how those signals are interpreted.

Urban wildlife managers are particularly interested in understanding how or if risk perception is influenced by exposure to media coverage about threats bears pose to...
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Humans or their pets. In a few cases, widely publicized wildlife attacks on people precipitated intense public reaction and sudden shifts in wildlife management policy (e.g., Thompson, Shirreffs, & McPhail, 2003), including greater use of lethal management responses (Miller & Tutterow, 1999; Thompson et al., 2003). Apart from these few cases, however, change in public perceptions after a wildlife attack and the reasons for perception change are neither well-documented nor well-understood.

Researchers are beginning to explore the role that mass media play in creating perceptions about large carnivores. Riley and Decker (2000b) hypothesized that media coverage of dramatic wildlife events, such as a cougar attacking a person, can significantly influence public perceptions of cougar abundance and distribution, as well as perceptions of the threat cougars pose to humans. Other researchers hypothesized that media coverage of bear attacks on people negatively affect efforts to conserve bears (Herrero, 2005). Such media coverage may influence human behavioral response in a human–bear encounter. For example, Miller and Tutterow (1999, p. 250) report that lethal response to bear encounters (i.e., bears killed by residents “in defense of life or property”) in Alaska “appear to increase following newspaper accounts of attacks by bears and deaths caused by bears.”

Theory on social amplification of risk and the literature cited here led us to hypothesize that television viewing and use of print media would be direct predictors of concern about bear-related safety threats.

Value Orientation

Fulton, Manfredo, and Lipscomb (1996) proposed that an individual’s “value orientations” (basic beliefs) provide a foundation for higher-order cognitions, such as attitudes and norms. Fulton et al. (1996) proposed a set of value orientation scales to measure wildlife-related basic beliefs and found that wildlife benefits/existence orientation was predictive of attitudes toward hunting and fishing and behavioral intentions to hunt or fish. Value orientation scales have subsequently been refined and modified for use in multiple studies and have proven useful as predictors of attitudes toward wildlife and acceptability of wildlife management actions.

Application of the cognitive hierarchy framework described in Fulton et al. (1996) has provided some support for assertions that “individual behavior toward wildlife is driven by specific attitudes and these attitudes are directed by wildlife value orientations” (Teel, Manfredo, & Stinchfield 2007, p. 300). More specifically, research on residential human–wildlife conflicts supports the hypothesis that people who perceive benefits from a wildlife species tend to be more tolerant of problem interactions with that species (Decker, Lauber, & Siemer, 2002). Those findings led us to expect particular associations between wildlife benefits orientation, attitudes, and behavioral predisposition. We hypothesized that high wildlife benefits orientation would be positively related to information seeking about wildlife and wildlife management, negatively related to concern about safety threats from black bears, and negatively related to predisposition to contact an authority to respond to a bear-related problem.

Personal Experience

Empirical research provides a basis for expectations about personal traits and personal experiences likely to be associated with concern about bear-related safety threats. Some studies have found an inverse relationship between risk perception and personal experience
with a wildlife species. For example, a survey in the Catskill region of New York State (Decker & O’Pezio, 1989) found that worry about negative interactions with bears was lower and acceptance of bears was higher among landowners who had seen bears or bear sign. Such findings support the idea that personal experience reduces uncertainty about the consequences of living in proximity to a given species, which reduces concern level and risk perception. Risk literature suggests that people tend to be less concerned about familiar hazards as compared to novel hazards (Fischhoff, Slovic, Lichtenstein, Read, & Combs, 1978; Slovic, Fischhoff, & Lichtenstein, 1980). Given previous research demonstrating that personal experience with wildlife-related problems often leads to reduced wildlife acceptance capacity (Zinn, Manfredo, & and Vaske, 2000), we expected to find that experience with bear-related problems would predict concern. We hypothesized that seeing bears or bear sign (i.e., actual experience with bears that was neutral or positive) would be negatively related to concern about bears.

Personal Attributes
Multiple studies have found that concern about human safety is higher among women than among men with respect to a range of technological hazards (Davidson & Freudenburg, 1996; Gustafson, 1998). Some studies also have found that concern about potentially dangerous wildlife is higher among women than men (Zinn & Pierce, 2002). Those findings led us to expect that gender would be a predictor of concern about black bears.

We expected to find differences in media use based on personal attributes of study subjects. Literature on patterns of media use (e.g., Rubin & Rubin, 1982; Schoenbach, Lauf, McCleod, & Schuefele, 1999) led us to expect that television viewing would vary based on age and educational attainment, and that use of print media about wildlife and wildlife management would be directly influenced by age, education, outdoor activity involvement, and wildlife value orientations. Subjects who engaged in outdoor activities were expected to be interested in and seek out media stories about wildlife and wildlife management. Use of newspapers was expected to be higher among older respondents. Hours of television viewing were expected to be inversely related to educational attainment.

Hypotheses
We developed the following hypotheses, which collectively represent our a priori conceptual model.

Value Orientations. Strong wildlife benefit orientation will have: a direct positive influence on use of wildlife-related print media (H1); a direct negative influence on concern about health and safety threats posed by black bears (H2); and a direct negative influence on predisposition to contact authorities to respond to a human–bear interaction (H3).

Media Use. Print media use will have a direct positive influence on concern about health and safety threats posed by black bears (H4). Television viewing will have a direct positive influence on: concern about health and safety threats posed by black bears (H5) and predisposition to contact authorities about a human–bear interaction (H6).

Personal Experience. Seeing bears or bear sign will have a direct negative influence on concern about health and safety threats posed by black bears (H7) and a direct negative influence on predisposition to contact authorities about a human–bear interaction (H8).
Concern. Concern about health and safety threats posed by black bears will have a direct positive influence on predisposition to contact authorities about a human–bear interaction ($H_9$).

Methods

Data Collection

Data came from a 2002 mail survey of residents living in New York State. The instrument was designed to include measures of key variables in the SARF model. Instrument development and survey implementation are detailed elsewhere (Siemer & Decker 2003; Siemer & Decker, 2006) and are only briefly summarized here.

We surveyed a random sample of approximately 3,000 New York State residents in five geographic areas: (a) the Allegany bear hunting zone; (b) the Adirondack bear hunting zone; (c) the Catskill bear hunting zone; (d) the remainder of upstate New York outside a bear hunting zone; and (e) the downstate counties of Rockland and Westchester (New York City and Long Island were not sampled in this study). We implemented a 4-wave mail survey in March–April, 2002. Overall adjusted response rate was 42% ($n = 1,038$). We conducted a follow-up study to compare respondent and nonrespondent characteristics. Brief telephone interviews were completed with a sample of 75 nonrespondents between June 5 and June 15, 2002. Nonrespondents were less interested in bears, less likely to participate in outdoor activities, and more likely to be female (Siemer & Decker, 2003).

Exogenous Variables

We included the following exogenous variables in the survey as controls for the endogenous relationships: age, gender, education, participation in hunting, personal experience with bears, and negative experience with bears. Age was measured by asking respondents an open-ended question of what year they were born, and then transformed into their age by subtracting their year of birth from the year of the survey implementation ($M = 48.32$, $SD = 15.56$). Gender was coded as 1 (male) and 2 (female) ($M = 1.38$, $SD = .48$). Education of respondents was asked on a 7-point, closed-ended scale that ranged from 1 (less than high school) to 7 (graduate school) ($M = 4.35$, $SD = 1.95$). Participation in Hunting was coded as 0 (did not participate) or 1 (participated) ($M = .25$, $SD = .44$). Personal Experience with the presence of bears was coded as an additive scale based on whether a respondent had seen a bear (0 if the respondent had not seen a bear, 1 if the respondent had) or evidence of a bear (0 if the respondent had not seen evidence of a bear, 1 if the respondent had). The resulting scale had a range of 0–2 ($M = 1.25$, $SD = .85$). Negative experience with bears was coded as 1 if the respondent had ever experienced bear-related property damage and 0 if the respondent had not ($M = .37$, $SD = .48$). Finally, years in area was determined by asking respondents an open-ended question of how long they had lived in their current county of residence ($M = 31.74$, $SD = 20.79$).

Antecedent Endogenous Variables

Measures of Print Media and Television Exposure. The information-processing model (McGuire, 2001) suggests that both exposure to media reports and attention to those reports are prerequisites to a media effect on beliefs. We asked respondents to report the frequency (1 = never; 5 = very often) with which they read newspaper stories about black
bears, wildlife, and wildlife management (3 items). We also asked respondents how much attention they paid (1 = no attention at all; 5 = very much attention) to those stories about black bears, wildlife, and wildlife management (3 items). These six media items were all highly correlated and yielded a print-media-use scale with high reliability (Cronbach’s alpha = .94). The mean of these six questions was taken to form a media-use scale that ranged from 1 to 5, with 1 indicating that the respondent never read or paid attention to wildlife stories and 5 indicating that the respondent very often read and paid very much attention to such stories ($M = 3.05; SD = 1.50$). Respondents who did not read a daily newspaper were assigned a media use score of 1.

We assessed television exposure with an open-ended question asking how many hours a day respondents watched television ($M = 2.47, SD = 2.01$).

Measure of Value Orientation. We used modified versions of 13 items developed by Fulton et al. (1996) to create multi-item indices of: (a) wildlife benefits beliefs; (b) wildlife use/management beliefs; and (c) wildlife protection beliefs. All items used a 5-point, bipolar scale anchored by “strongly agree” and “strongly disagree.” In addition, each item included a “don’t know” response category; respondents who circled that category were not included in analysis of value orientation.

The 13-item index yielded a scale with an acceptable level of reliability (Cronbach’s alpha = .83). We used confirmatory factor analysis to create belief subscales. Dropping items did not improve reliability, so we conducted confirmatory factor analysis with all 13 scale items. Principal axis factoring with varimax rotation identified 2 factors with an eigenvalue of 1 or greater, and a third factor with an eigenvalue of 0.9. A 2-factor solution accounted for 36% of the variance. A 3-factor solution accounted for 50% of the variance, so we decided to conduct analysis using a 3-factor structure. Each of the final factors had a scale range from 1 to 5 and were labeled as “wildlife benefits beliefs” ($M = 4.38, SD = 0.55$), “wildlife protection beliefs” ($M = 2.54, SD = 0.95$), and “wildlife use beliefs” ($M = 3.92, SD = 0.67$).

Concern About Threats. We developed five items to measure concern about bear-related health and safety hazards (i.e., concern about: being confronted by a bear, being injured by a bear, being injured in a bear-related motor vehicle accident, having a pet threatened by a bear, or contracting a disease transmitted by bears). Those items were used to create an index of concern. All items were highly correlated and yielded a scale with high reliability (Cronbach’s alpha = .89). Principal axis factoring identified a single factor with an eigenvalue above 1. We labeled the factor “health concern.” The health concern factor accounted for 68% of the variance between items. All items loaded strongly on this factor and no other. Factor loadings were .80 and higher. The final aggregated scale had a range of 5 to 35 ($M = 15.99, SD = 6.76$).

Consequence Endogenous Variable

Measure of Behavioral Predisposition. We used a 7-item bear sensitivity index (BSI) (Peyton, Bull, Reis, & Visser, 2000) to measure tolerance for interactions with a black bear near one’s home. The BSI defines intolerance as the point where someone would “ask/tell some authority to do something about the bear.” All seven items offered a scenario describing a human–bear interaction near one’s home (e.g., “A bear damages a bird feeder or garbage can near your home once”). The BSI yielded a scale with high reliability (Cronbach’s alpha = .84). For purposes of this analysis, we recoded BSI items in binary
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fashion (0, 1), where 1 indicated that the respondent would contact an authority in the situation described. We then created a summative BSI score of 0 to 7, with 0 meaning they would never contact authorities to intervene and 7 meaning they would call for an intervention if they experienced any of the scenarios described ($M = 2.13$, $SD = 2.13$).

Analysis

Relationships between independent and dependent variables were tested with structural equation modeling (SEM) software Lisrel 8.0, using a latent composite variable structural modeling technique. We used multiple goodness-of-fit criteria to test the fit of our a priori conceptual model to the data, including the $\chi^2$ goodness-of-fit statistic, root mean square error of approximation (RMSEA), the comparative fit index (CFI), and $\chi^2$/df.

Results

While 1,038 responses were collected for the survey, some respondents did not answer all of the questions. Using listwise deletion, which is required by the LISREL algorithm used, 914 responses were used for the final analysis of the model.

All indices of model fit indicated that the final model (Figure 1) was a good fit for the data ($\chi^2 = 51.22$, $df = 39$, $p = 0.09$, $\chi^2/df = 1.33$, RMSEA = .019, 90% confidence interval of RMSEA (0; .031), CFI = 1.00). All significant direct and indirect effects from control (exogenous) variables on endogenous variables are shown in the standardized gamma matrix in Table 1. All significant direct and indirect effects from antecedent variables on other antecedent variables are shown in the standardized beta matrix reported in Table 2.

Figure 1. Standardized solution for final model of direct predictors of concern about and sensitivity to problem interactions with black bears in New York State (2002 data; significant links between exogenous control variables and value orientation indices (i.e., “Use,” “Benefit,” “Protect”) have been removed for clarity of presentation).
The final model supported most of the hypothesized relationships in our a priori base model. Figure 1 provides a visual representation of the standardized solution for the final model. Significant links between exogenous control variables and value orientation indexes (i.e., “Use,” “Benefit,” “Protect”) have been removed for clarity of presentation. All other direct links in the model are shown (all coefficients reported in Figure 1 are significant at the .05 level).

We did not find a significant link between gender and concern or gender and BSI (contrary to expectations). We did, however, find other expected links between control variables (i.e., age, education, hunting participation) and endogenous variables. Use of television and wildlife-related print media were directly predicted by age and education. Participation in hunting was a predictor of lower concern ($\beta = -0.29$) and lower BSI ($\beta = -0.29$).

Wildlife benefit beliefs had a positive association with use of wildlife-related print media ($\beta = 0.27$, in support of $H_2$). Wildlife benefit beliefs had a negative association with concern about bears ($\beta = -0.21$, in support of $H_2$) and BSI ($\beta = -0.21$, in support of $H_3$). Use

### Table 1
Impact of exogenous variables on endogenous variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Hunter</th>
<th>Age</th>
<th>Gender</th>
<th>Education</th>
<th>Years lived with bears</th>
<th>Seeing bears</th>
<th>Neg. experience with bears</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit</td>
<td></td>
<td>-0.16</td>
<td>0.11</td>
<td></td>
<td>0.15</td>
<td>0.29</td>
<td>-0.07</td>
</tr>
<tr>
<td>Protect</td>
<td>-0.59</td>
<td></td>
<td></td>
<td></td>
<td>-0.21</td>
<td>0.16</td>
<td>-0.12</td>
</tr>
<tr>
<td>Use</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td>-0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspaper use</td>
<td>0.39</td>
<td>0.22</td>
<td></td>
<td></td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television use</td>
<td></td>
<td>0.28</td>
<td></td>
<td>-0.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concern</td>
<td>-0.29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.19</td>
<td>0.14</td>
</tr>
<tr>
<td>Bear sensitivity</td>
<td>-0.29</td>
<td>0.16</td>
<td></td>
<td>-0.03</td>
<td>-0.09</td>
<td>-0.06</td>
<td>-0.25</td>
</tr>
</tbody>
</table>

1 Direct effects (row 1), indirect effects (row 2), total effects (row 3); all coefficients shown are standardized and significant at the 0.05 level.

The final model supported most of the hypothesized relationships in our a priori base model. Figure 1 provides a visual representation of the standardized solution for the final model. Significant links between exogenous control variables and value orientation indexes (i.e., “Use,” “Benefit,” “Protect”) have been removed for clarity of presentation. All other direct links in the model are shown (all coefficients reported in Figure 1 are significant at the .05 level).

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Wildlife benefit beliefs had a positive association with use of wildlife-related print media ($\beta = 0.27$, in support of $H_2$). Wildlife benefit beliefs had a negative association with concern about bears ($\beta = -0.21$, in support of $H_2$) and BSI ($\beta = -0.21$, in support of $H_3$). Use
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In the United States, print media did not have a significant direct association with concern (disconfirming $H_4$). Television viewing had a positive direct effect on concern about bears ($\beta = .28$, in support of $H_5$), but did not have a significant direct association with BSI (disconfirming $H_6$), although there was a significant overall effect of television viewing on BSI through the indirect pathway of concern about bears (total effect $\beta = 0.09$). As expected, personal experience with bear-related property damage (“negative experience”) had a direct positive influence on concern ($\beta = 0.14$). Seeing bears or bear sign (i.e., non-negative personal experience) had a negative association with concern about bears ($\beta = -0.19$, in support of $H_7$) and with BSI ($\beta = -0.19$, in support of $H_8$). Concern had a significant positive association with BSI ($\beta = 0.30$, in support of $H_9$).

Discussion

Conclusions

The proposed model of influences on concern about black bears in residential areas was not refuted and appears to be a promising conceptual framework for additional research on
development of risk perception related to human interaction with black bears that interact with people near human residences.

**Print Media Exposure.** This work leads to the conclusion that value orientations and personal experience related to black bear presence contribute more toward concern and sensitivity to bear interactions than does exposure to print media about black bears. Contrary to our hypotheses, we found no evidence that print media coverage was serving as an amplifier of risks associated with black bears in this case. The absence of a print media exposure effect on concern about bear-related hazards may stem from the declining use and importance of newspapers as an information source (Schoenbach et al., 1999).

Another plausible explanation for the absence of a print media effect is that print media accurately portray the low threat bears pose to people in this case. Siemer et al. (2007) analyzed media context available in New York State between 1999 and 2002 and concluded that print media content generally provided accurate risk messages. A few months after the mail survey reported in Siemer and Decker (2003), an infant in New York was fatally injured by a black bear. Using a telephone survey and media content analysis to characterize risk perception and media coverage after the fatality, Gore, Siemer, Shanahan, Scheufele, and Decker (2005) found that risk perception did not increase after the fatality, and media coverage after the fatality did not exaggerate the risk that black bears posed to human safety.

**Television Viewing.** The association we found between high rates of television viewing and elevated concern about bears raises questions that our analysis was not designed to address. We can only speculate on whether the content of television programs contributes to elevated concern about safety risks or whether people who view more hours of television differ in other ways that might explain greater perceptions of risk. However, Shanahan and McComas (1999) found evidence of an association between heavy television viewing and fear of pollution-generating technologies and concern about adverse health effects linked to those technologies. They concluded that heavy television viewing exposes viewers to alarmist messages that can heighten fear about environmental hazards among some subgroups. One possibility is that heavy viewers are, in general, more likely to be susceptible to fears about environmental risk. More research and more mixed-methods research designs will be needed to understand television viewing effects on concern about wildlife.

To investigate such a phenomenon in a wildlife context, researchers would need to carefully document the volume and content of television programming focused on dangerous wildlife or wildlife attacks on people, and then link viewing of such programs to elevated concern about dangerous wildlife.

**Value Orientations.** This study highlights the importance and utility of assessing basic belief structures (e.g., wildlife-related value orientations) that form part of stakeholders’ frame of reference. These findings are consistent with previous research indicating that measures of wildlife-related value orientations have utility as part of models to predict attitudes and behavioral intentions.

**Personal Experience.** Findings were consistent with the hypothesis that non-negative experiences with bears (i.e., seeing bears or bear sign) are associated with attenuated concern and behavioral predisposition to contact a wildlife agency for assistance during a bear-related encounter near a stakeholder’s home. The finding that such experiences are a predictor of concern and sensitivity to bear presence suggests that improving measures of
personal experience with bears will facilitate development of stronger predictive models of bear-related concern.

This analysis was a useful first step, but does not allow the researcher to identify why experiences such as seeing a bear attenuate concern. A useful next step would be research on the subcomponents that may explain why experience with bears reduces concern. Reduced concern may occur because of influences on emotion (e.g., reduction of fear), or due to influences on the cognitive systems engaged when individuals process information about wildlife-related experiences (e.g., how and to what degree experiential vs. analytic processes are used by the individual to interpret and react to a given wildlife encounter). Examination of the subcomponents of cognitive processing will be needed to further advance predictive models of bear-related concern. A theory-based research agenda on human conditioning to wildlife (Zinn, Manfredo, & Decker, 2008) could help managers better understand the role of personal experience in concerns about bears and other carnivores in residential areas.

Management Implications

Media Relations. Especially during the period of early issue emergence, which we studied, wildlife managers have an opportunity to work with media to craft accurate and useful risk communication messages. By following best practice guidelines for media relations (Jacobson, 1999; Regester & Larkin, 2008; Shanahan, Decker, & Pelstring, 2001) wildlife professionals can increase the likelihood of accurate print media reporting in the aftermath of a newsworthy human–wildlife interaction.

Our findings point toward the need to consider media relations activities that go beyond press releases and information for print media. Stakeholders demonstrate different information-seeking behavior and hold different frames of reference, leading to different message exposure and interpretation of risk signals. A diverse media relations program will be beneficial to manage public concern about black bears. These results highlight the need for audience segmentation, with messages and delivery mechanisms differentiated and targeted to reach key management stakeholders.

Personal Experience. This study supports the hypothesis that positive personal experience with black bears in one’s local area may attenuate risk perception. Wildlife agency programs that provide mechanisms for people to see bears or sign of bears in their area of residence may lead to increased familiarity with and accurate perceptions of the threats that bears do and do not present to humans. Agency programs to increase familiarity with bears may be most useful in regions newly occupied or reoccupied by bears.

References

management strategies (pp. 181–187). Yellowknife, Northwest Territories, Canada: Northwest Territories Department of Renewable Resources.


