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SOCIAL PSYCHOLOGICAL CONSIDERATIONS IN WILDLIFE MANAGEMENT

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Human dimensions research contributes to the knowledge about the public's thoughts and actions toward wildlife. Such knowledge is essential for accomplishing management goals such as encouraging participation in wildlife-related activities, reducing conflict among wildlife stakeholders, educating people about management practices, and predicting stakeholder positions on emerging issues. Management interest in this research stems from a desire to understand, predict, and influence the public's behavior in wildlife-related issues.

A scientific approach to the human dimensions of wildlife management has developed that knowledge during the past 30 years, especially by building on relevant theory and concepts in social psychology, such as values, attitudes, and norms (Manfredo et al. 2009b). Theory is important because it extends the generalizability of findings, improves the rigor and confidence in the research, provides a framework for integrating and building on previous findings, and contributes more to knowledge than purely descriptive research.

Social psychology is the scientific study of the way in which people's thoughts, feelings, and behaviors are influenced by their environment. *Cognitive approaches* have traditionally examined concepts such as values, attitudes, and norms that underlie the process that leads from human thought to action and the relationships among those concepts, especially to predict behavior. More recently, attention has been given to the importance of *emotions* in human–wildlife relationships. *Motivation approaches* seek to explain why we do what we do, and *satisfaction theories* attempt to explain why people evaluate their experiences in a given way.

This chapter reviews some of the basics of cognitive, emotion, and motivation–satisfaction approaches to understanding the social aspects of wildlife management, discusses important concepts for wildlife management, and presents examples of the concepts.

4.1. A COGNITIVE APPROACH

Cognitions refer to the collection of mental processes used in perceiving, remembering, thinking, and understanding, as well as the act of using these processes. The cognitive approach explores the relationships between values, value orientations, attitudes, and norms to understand how these concepts influence behavior.

Popular media commonly assert that values influence behaviors toward wildlife, but empirical evidence showing direct predictive validity is sparse. For example, research suggests that values have limited effects on predicting specific wildlife-related behaviors or support for management actions (Manfredo 2008). Cognitive theories offer explanations for these disparities, suggesting that attitudes and norms mediate the relationships between values and behavior. These theories distinguish stable but general values from more specific cognitions (e.g., attitudes and norms) that people use to evaluate objects or situations encountered in daily life. In social psychology, an *object* can be any entity that is being evaluated (e.g., a person, situation, wildlife, management action, or policy). Social psychologists differentiate concepts (e.g., values, value orientations, attitudes) based in part on the specificity of objects being measured. Specific attitudinal or normative variables predict behaviors better than more general cognitions such as values.

Such cognitions are best understood as part of a "hierarchy" from general to specific (Fig. 4.1). These elements build upon one another in what has been described as a "cognitive hierarchy," which has been applied to evaluations and behavior associated with wildlife (see Manfredo 2008 and Vaske 2008 for reviews).

4.1.1. Values

Values are commonly defined as desirable individual end states, modes of conduct, or qualities of life that we individually or collectively hold dear, such as freedom, equality, and honesty (Rokeach 1973). Values are general mental constructs that are not linked to specific objects or situations. Thus, a person who holds "honesty" as a value is expected to be honest when completing Internal Revenue Service tax forms, conducting business deals, or interacting with friends. Values reflect our most basic desires and goals and define what is important to us, such as honor and fairness. Values are often formed early in
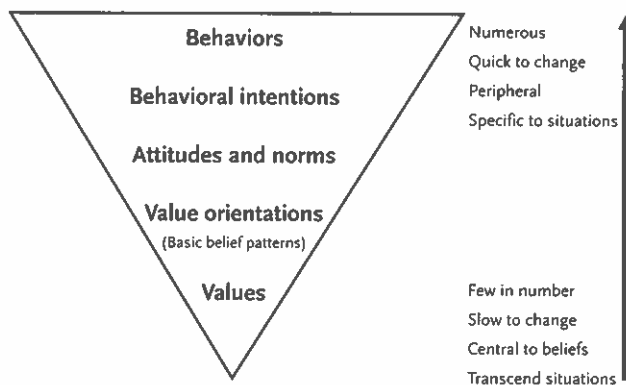
Figure 4.1. The cognitive hierarchy (adapted from Manfredo 2008)

life, are culturally constructed, and are tied with one's identity; therefore, they are extremely resistant to change.

People tend to have a small set of core values (Manfredo 2008). Such values can direct a large number of attitudes that express those values. For example, a person's attitude toward lethal control of a particular wildlife species may originate from values regarding respect for life. Much of the early applied work on values was not explained in the context of theory, so students (and even professionals) sometimes confuse the concepts of values and attitudes. Kellert (1980a), for example, created an item bank intended to measure nine different domains of thought about wildlife. Somewhat interchangeably, he suggested that the items measure both wildlife values and wildlife attitudes. More recent work has built on this foundation and advanced methodological procedures that are directly tied to cognitive theories (see Manfredo 2008 and Vaske 2008 for reviews).

4.1.2. Value Orientations

Because values tend to be widely shared by all members of a culture, values are unlikely to account for much of the variability in specific behaviors (Box 4.1). The notion of *wildlife value orientations* was introduced as a concept that describes the way that a value attains meaning for an individual. The value orientation concept initially described a pattern of direction and intensity among basic beliefs (indicative of a value) about wildlife.

Manfredo et al. (2009a) later proposed that, relative to wildlife, values are oriented by one of two cultural ideologies: domination (spawning utilitarian views of wildlife) and egalitarianism (giving rise to notions of equality and mutualism with wildlife). Utilitarian and mutualism wildlife-value orientations are measured using statements that depict different ideal worlds and the acceptable modes of conduct toward wildlife expected from people holding these different orientations. For example, an ideal world for a person with a strong mutualist orientation might be "animals and humans live side by side without fear," while an ideal world for an individual with a strong utilitarian orientation might be "fish and wildlife exist to benefit humans" (see Manfredo et al. 2009a for additional examples).

The Western Association of Fish and Wildlife Agencies commissioned a 19-state study of wildlife value orientations in the western United States. A map from that study shows that some states have a more utilitarian culture than other states (Fig. 4.2). States where there are higher percentages of utilitarians have higher percentages of hunters and anglers and, given conflict situations, are more likely to support lethal control of wildlife (Teel and Manfredo 2010). The study authors suggest that modernization (indicated by higher income, urbanization, and education) leads to a shift from utilitarian to mutualism value orientations (Manfredo et al. 2009a).

4.1.3. Attitudes

Attitudes are one of the most frequently studied concepts in the social sciences (Manfredo et al. 2004). *Attitudes* are defined as the favorable or unfavorable evaluation of a person, object, or action. Contemporary thinking divides attitudes into explicit attitudes and implicit attitudes. Explicit attitudes are formed from deliberate thought and processing, while implicit attitudes occur more automatically and often do not enter a level of conscious processing. Virtually all the research in human dimensions of wildlife has focused on explicit attitudes, although implicit attitudes are a critical area for future research.

Attitudes are a particularly important concept because they precede and direct behavior. While value orientations are believed to direct attitudes, attitudes are believed to directly influence behavior. Short-term behavior change typically will not become permanent unless one changes the accompanying constructs causing the behavior, such as underlying attitudes. Knowing what influences behavior helps us predict it more accurately.

Attitude questions used in surveys are typically framed in terms of like–dislike, good–bad, or positive–negative. Much of the human dimensions research dealing with opinions, preferences, and perceptions is actually an examination of attitudes (Manfredo et al. 2004). Perceived crowding, for example, is defined as a negative evaluation of a certain number of people in a given situation (e.g., birdwatchers at a National Wildlife Refuge). Defined in this manner, crowding is an attitude that people feel about seeing others while engaged in an activity. Similarly, determining whether a person likes new regulations that limit the number of people using a refuge is an indication of that person's attitude toward the regulation.

Attitudes have both an evaluative and a cognitive dimension. The evaluative component refers to whether the individual views the attitude object as positive or negative. The cognitive aspect refers to the beliefs associated with the attitude object. Beliefs are what we think are true, but are not necessarily objective facts. Both the cognitive and the evaluative characteristics of an attitude must be understood to predict behavior (Box 4.2). For example, one person may have a cognitive belief that wolves are dangerous to humans and will therefore evaluate wolves negatively because of fear. Another person may also believe wolves are dangerous but feel positively toward them because s/he is excited by the potential

Box 4.1 *WHY VALUES DO NOT DIRECTLY PREDICT WILDLIFE-RELATED BEHAVIORS*
An Illustration Based on the Cognitive Hierarchy

Based on the cognitive hierarchy, the figure below illustrates why values do not directly predict wildlife-related behaviors. Both person 1 and person 2 hold "respect for life" as a value. Person 1, however, attends anti-hunting rallies, while person 2 hunts. The reasons for this apparent discrepancy are the variables that mediate between the value and the behaviors. Person 1, for example, (1) believes that animals should have rights similar to humans (a basic belief), (2) has a personal norm against eating meat, and (3) feels that hunting is a negative activity. Person 2, on the other hand, (1) has a more utilitarian view of wildlife, (2) believes that wild game should not be wasted (a norm), and (3) has a positive attitude toward hunting. The specific attitudes and norms outweigh the influence of the more general basic beliefs and value in predicting the behaviors. Although the two people share the same value (respect for life), person 1 applies the value to both humans and wildlife; person 2 applies the value to humans but not to animals.
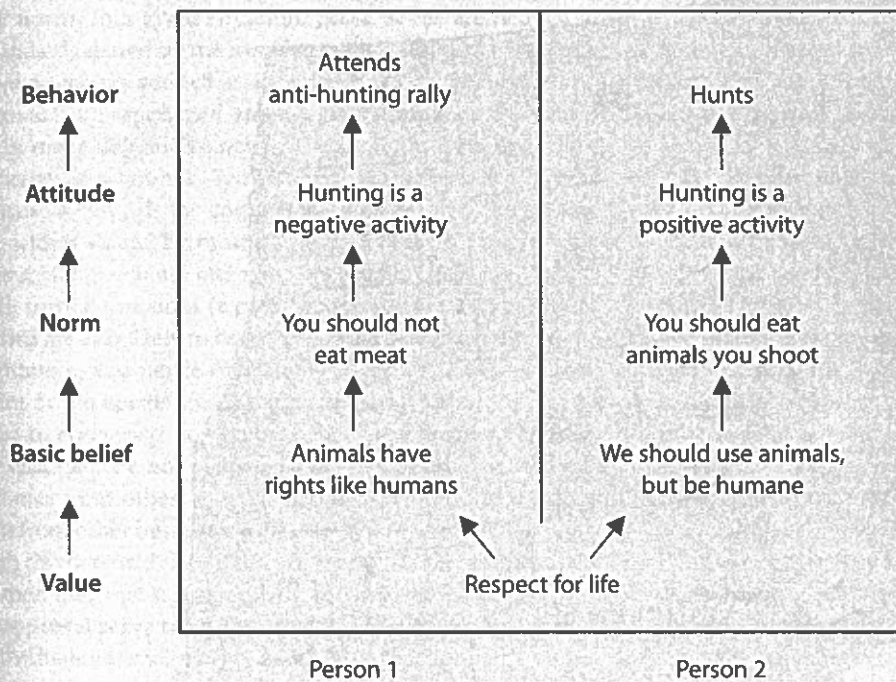
The cognitive hierarchy illustrates the reasons that values do not directly predict wildlife-related behaviors

danger or can avoid negative encounters with wolves. Both individuals share the belief that wolves are dangerous, but their evaluations of this belief are different.

Beliefs, attitudes, and behaviors are most strongly related when measured at "corresponding levels of specificity" (Whittaker et al. 2006). For example, to determine how people will vote to support wolf reintroduction, we should determine their specific attitudes toward *wolf reintroduction*, not just their beliefs about or attitudes toward *wolves* in general. Research has shown that while general attitudes can predict general behaviors (e.g., voting in general), specific attitudes are better for predicting specific behaviors (e.g., voting for a specific wildlife initiative). By framing items that measure attitudes so that they are context-specific, we can improve predictions of behavior. Ajzen and Fishbein (1980) identify four specificity variables across which measurements of attitude and behavior

should correspond: target (e.g., deer); context (e.g., deer are causing Lyme disease); action (e.g., conduct a special hunt); and time (e.g., next month).

Prediction of behavior is also enhanced when attitude salience is considered. *Salience* refers to how easily and quickly thoughts come to mind when an attitude object is introduced. For example, to determine the salience of a trapping ban in Colorado, Manfredo et al. (1997) asked voters why they voted to support or oppose it. The list of thoughts respondents provided indicated what was salient to them. Objects or ideas with more salience to a person are easier for the person to think about; they have higher *accessibility* and can be retrieved from memory or thoughts more easily.

Salience can help explain the reason that a person holds an attitude. The salient points are the types of things a person has thought about in forming an attitude. Salience also indicates
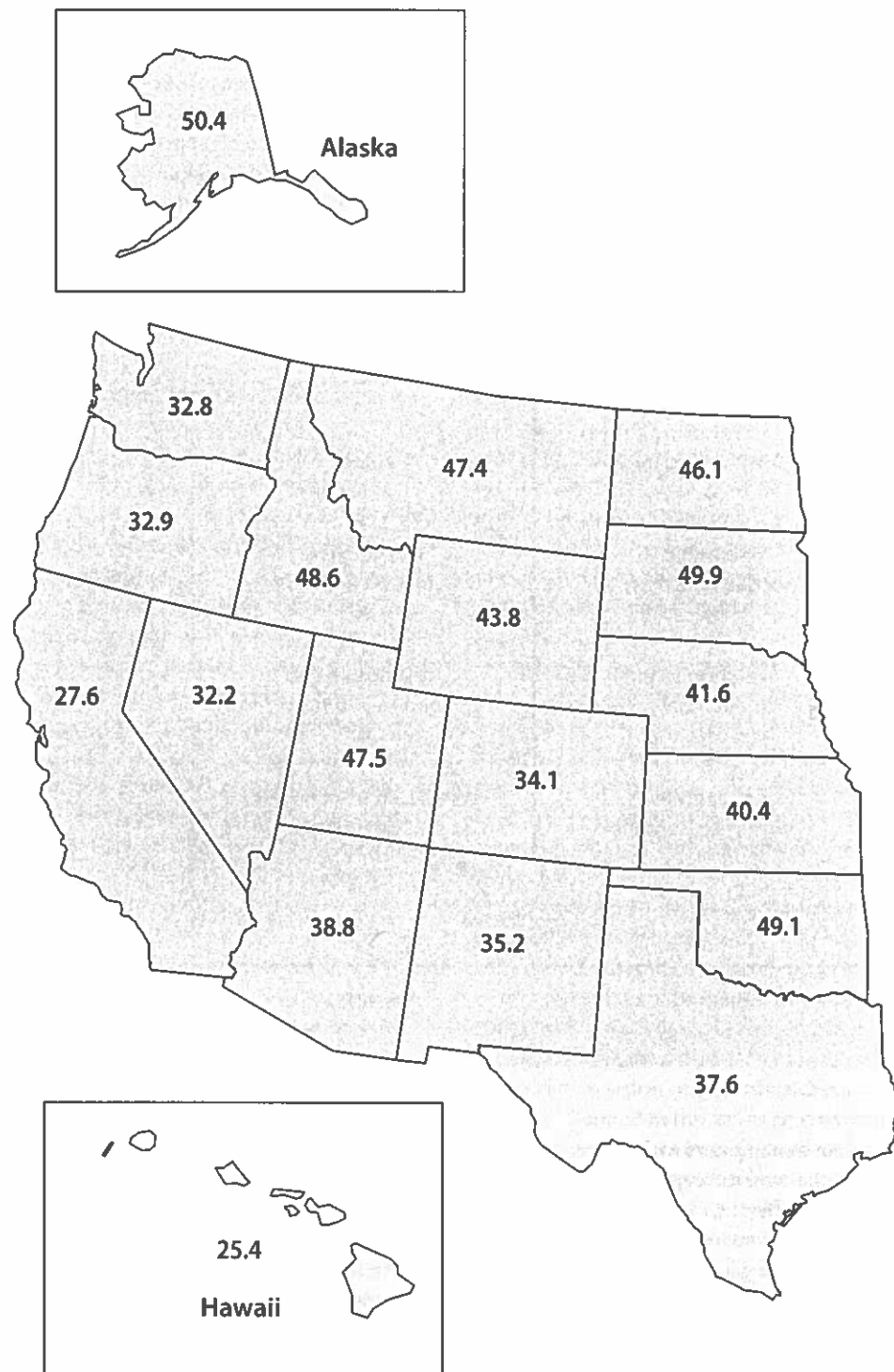
Figure 4.2. Percent (by U.S. state) of the population that exhibits utilitarian (domination-oriented) values toward wildlife (Manfredo et al. 2009a)

how much a person has thought about the attitude object. If an issue is very salient to a person, s/he is likely to have spent more time considering the issue and have more thoughts associated with it.

Strongly held attitudes are difficult to change. Attitude *strength*, however, should not be confused with how extreme a person is about something. Some people may have extreme viewpoints about a wildlife issue, such as trapping of animals, but not hold the attitude strongly because it is not a central issue to them. In such a case, the attitude has the potential to change given further information or persuasive attempts.

4.1.4. Norms

Norms can refer to what most people are doing (a descriptive norm) or to what people *should* or *ought to* do (an injunctive norm) in a given situation. *Social norms* are defined as "standards shared by the members of a social group" and *personal norms* are defined as an individual's own expectations, learned from experience, and modified through interaction.

In many definitions, norms are also intimately tied to the concept of sanctions—punishment for people who break norms or rewards for compliance with norms. Norms that are widely shared by most members of society (e.g., not littering, not poaching) often become legal mandates complete with formal sanctions (e.g., fines) for non-compliance. Such norms are also likely to be internalized, viewed as being right, legitimate, and hence obligatory. When there is less agreement or the norms are emerging, informal sanctions may be used to encourage acceptable behavior. Waterfowl hunters, for example, are not obligated to set up their blinds a certain distance from others in a marsh, but some degree of separation from other hunters is expected. Those who fail to comply with this personal distance norm are not formally sanctioned. Rather, informal sanctions such as "dirty looks" or shouts of disapproval serve to communicate and enforce the norm. If individuals internalize a norm, external sanctions are less necessary.

Norms help to explain why people (either individually or collectively) often act in regular ways, as well as aid our understanding of *irregular* human behavior. Anti-litter norms, for example, are strong and widely held; yet litter is often present, even in wilderness. Norms are interesting precisely because they vary by the proportion of people who hold them, their strength in an individual or group, the level of agreement about them, their influence on behavior, and their wider enforcement of social regularities. However, norms (like attitudes) are not static within or across people or situations. In a given social context, some people may have a well-formed norm that dominates their behavior or evaluation, while others may have only an emerging norm that barely influences what individuals do or think. Still others may be unaware of a norm and become bewildered when sanctions are brought against them for breaking it. Even well-formed norms may fail to influence behavior because of competing norms, attitudes, or motivations.

Different social psychologists define and use the concept of norms differently (see Vaske and Whittaker 2004 for a review). Some concentrate on the variables that serve to focus or activate a norm, while others address how social pressure can influence behavior or aid in the diffusion of ideas. Still others emphasize the structural characteristics of norms to help evaluate appropriate behavior or conditions. Knowing how different researchers use the same concept (e.g., norms) clarifies what theoretical approach is most appropriate for examining a given situation or problem. For example, if the issue involves promoting responsible environmental behavior (e.g., not littering, not poaching), norm focus–activation models are more appropriate. If the issue involves determining standards for acceptable human impacts, structural approaches are a better choice.

Norm theories also differ in how they measure the concept of norms. Norm focus–activation theories and the structural-norm approach measure norms at the individual level (i.e., personal norms) and then aggregate the data to derive social norms. The theory of reasoned action (Fishbein and Ajzen 1975), in contrast, focuses primarily on perceived social norms (i.e., subjective norms) and does not directly address the concept of a personal norm.

Norms can be linked to attitudes and are often construed as parallel constructs. Like attitudes, norms have both cognitive and affective components (the strength of obligation can be tied to emotions such as guilt) as well as the ability to influence behavior. Some attitudes and norms are more global than others, and the specificity of each is critical for determining whether the attitude or norm will accurately predict behavior. Norms are different from attitudes, however, because of the added dimension of obligation. Attitude measures focus on positive or negative evaluations, while norm variables examine acceptability evaluations (what a person, group, or institution should do). Beliefs about internal or external sanctions are additional components without parallels in attitude models.

A fundamental issue in understanding norms is the idea of *norm strength*. The ability of a norm to predict individual or group behavior is influenced by how strongly a norm is held by an individual or group. A norm does not just exist or not exist; there is a matter of degree. As a construct represented in a person's mind, a norm may be weakly held, difficult to access, without much sense of obligation, with no connection to moral values, and may be associated with low expectations of trivial external sanctions. As such, the norm is not expected to affect behavior. However, if the norm is strong, has a sense of obligation attached, and brings expectations of serious sanctions, it is likely to affect behavior. The research challenge is to measure the varieties of information that can be collected about normative concepts in people or across groups and then relate that to their behavior.

Norms have been important to wildlife management in three ways. First, norm research has been used to establish standards that specify the conditions that are acceptable to society or specific stakeholders. For example, wildlife mana-

Box 4.2 *THE BELIEF AND EVALUATIVE COMPONENTS OF AN ATTITUDE TOWARD A TRAPPING AMENDMENT*

In November 1996, Colorado voters passed a ballot initiative to amend the state's constitution by restricting wildlife trapping on public and private lands (Amendment 14). A telephone survey ($n = 408$) of registered voters was conducted immediately after the election (see Vaske 2008). Using the theory of reasoned action as the theoretical foundation, the study's objective was to explain the voting behavior by using measures of the respondents' attitude toward the amendment.

Prior to finalizing the telephone survey, an elicitation study ($n = 50$) identified four salient beliefs associated with the trapping ban. These four issues were asked twice in the final survey. In the first set of questions, respondents were asked whether each outcome was likely or unlikely (a belief). The second set of questions asked respondents to indicate whether each outcome was bad or good (an evaluation). The mean scores for those who voted for and those who voted against the trapping ban for both the belief and the evaluation components of the attitude are shown in the figure below. Each respondent's belief was

Mean belief (B) and evaluative (E) scores for trapping ban ballot–initiative outcomes
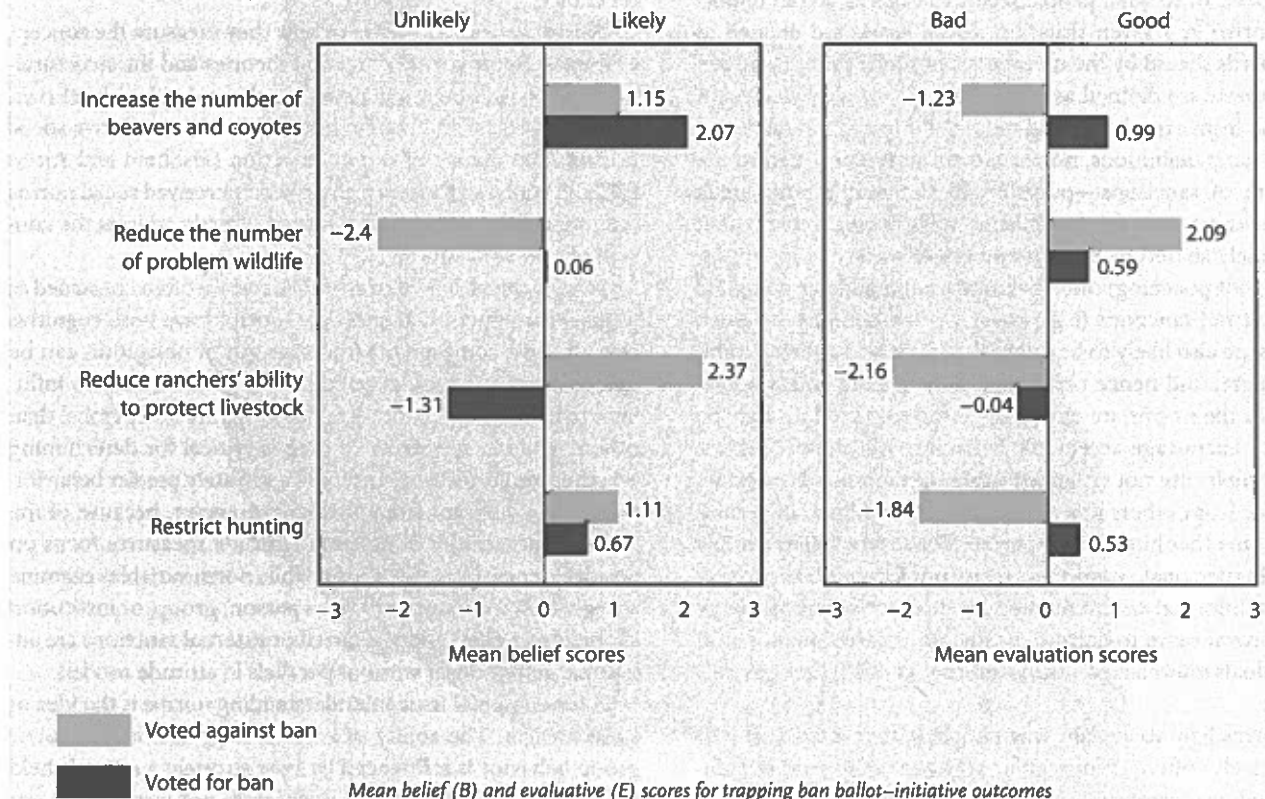
gers often seek to understand human tolerances for the social encounters, physical conditions, and services they offer hunters and wildlife watchers. The structural characteristics of the norms approach has helped in the development of indicators and standards that define quality experiences (Box 4.3).

Second, norms can predict behavior. The theory of reasoned action (TRA) and theory of planned behavior (TPB) hypothesize that people partially base their behaviors on subjective norms—what they think other people think they should or should not do in a given situation (Ajzen and Fishbein 1980). Natural resource applications of TRA and TPB models have shown that these subjective norms can predict behavior (e.g., predict hunting intentions and voting for a trapping amendment [Vaske 2008]).

Third, norms can influence behavior. The influence of others may be particularly important for people who are less informed about an issue. For example, one of the main sources of information for Colorado residents voting on a proposed trapping ban (Manfredo et al. 1997) was talking to others. In another example, drawing people's attention to the presence or absence of litter can affect their own littering behavior (Cialdini et al. 1991).

4.1.5. Emotions

The term *affect* in attitude and norm research refers to a general class of *feeling states* experienced by humans; *emotions* are subsumed under this category (Manfredo 2008). Because emotions are complex, a variety of definitions exists and a com-

multiplied by his or her corresponding evaluation of that outcome. This process resulted in four belief × evaluation (BE) product scores. Summing across the four BE products yielded the individual's attitude toward the trapping ban amendment, as shown in the figure below. Respondents who were against the ban consistently held a strong negative attitude toward Amendment 14. The averages of these BE products ranged from −2.5 to −5.65. Those who voted for the ban consistently held a positive attitude, but the BE scores were held with less conviction. These BE scores ranged from 0.16 to 1.06. This visual display facilitates an understanding of how the attitudes of the two groups differed.

Mean belief–evaluation (BE) product scores
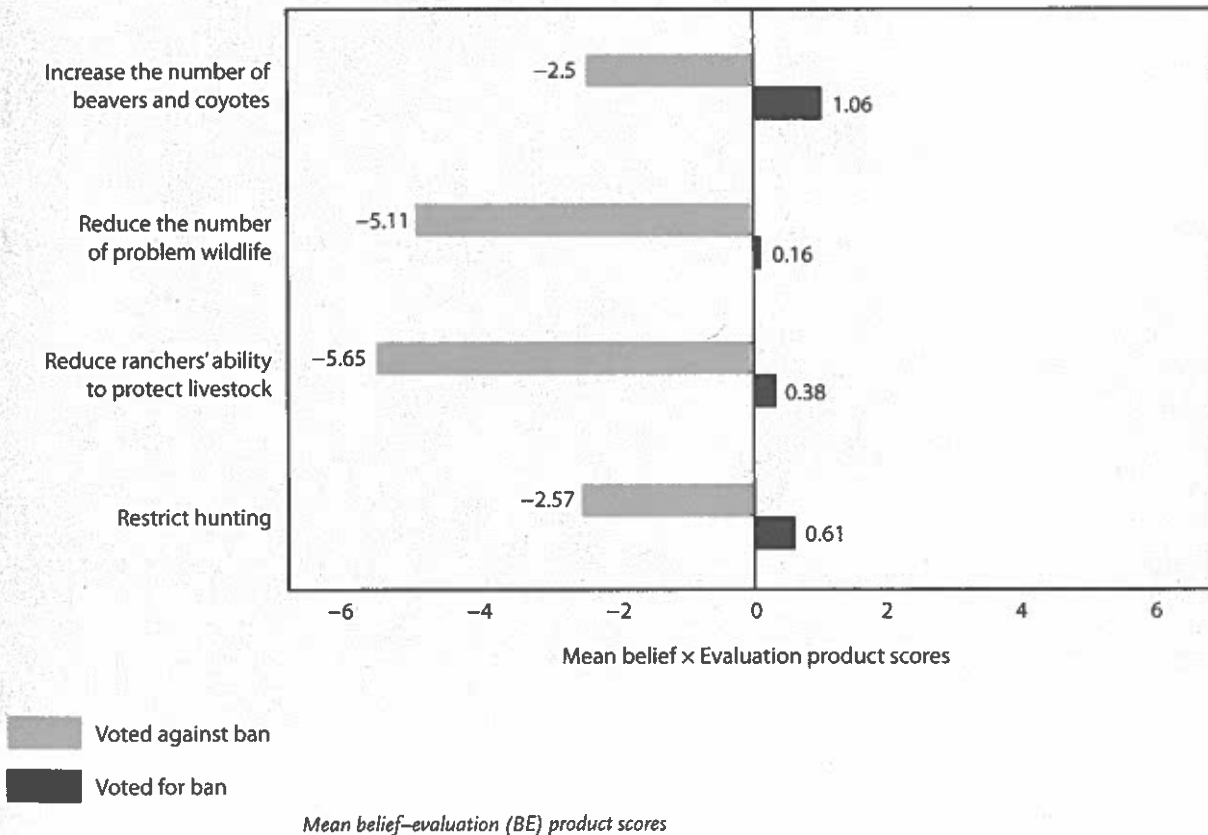
monly shared definition has not emerged (Barrett et al. 2007, Izard 2007). Many scholars, however, agree that emotional responses consist of (a) physiological reactions (e.g., increased heartbeat), (b) expressive reactions (e.g., smiling), (c) behavioral tendencies (e.g., approaching), and (d) emotional experiences (e.g., interpreting the situation, feeling happy; Cornelius 1996). The experience of emotion brings together, at a specific point in time, the affect, perceptions of meaning, and existing knowledge about the situation.

Emotional responses are at the heart of human attraction to, and conflict over, wildlife. The surprise and / or fear hikers experience when they encounter a wolf in the wild, or the anger that a rancher might express to a wildlife manager over a decision to reintroduce wolves, are emotion-laden events.

Such situations provide compelling justification to increase research on the emotional responses to wildlife. (For more information on emotions, see the special issue of *Human Dimensions of Wildlife* [Vol. 17, No. 1, 2012], Emotional Responses to Wildlife).

Compared with the cognitive approaches, empirical research on emotions is relatively scarce in human dimensions of wildlife (Jacobs et al. 2012). The studies that do exist have not explored the concept systematically and the findings have been fragmentary. This lack of attention given to emotional responses can be attributed to two reasons. First, the wildlife professional has traditionally emphasized *science* and sought to exclude emotional considerations from the decision-making process (Manfredo et al. 2009b). This emphasis has not encour-

Box 4.3 *INDICATORS AND STANDARDS FOR THREE ELK-VIEWING EXPERIENCE OPPORTUNITIES*

Indicators are the biological, ecological, social, managerial, or other conditions that managers and visitors care about for a given experience. *Standards* restate management objectives in quantitative terms and specify the appropriate levels or acceptable limits for the impact indicators (i.e., how much impact is too much for a given indicator).

Standards identify conditions that are desirable (e.g., availability of and proximity to animals) as well as the conditions that managers do not want to exceed (e.g., encounters with other people, wildlife flight reactions, incidents of wildlife–human conflict).

Elk viewing is among the most popular activities for visitors to Rocky Mountain National Park. Visitor expectations about crowding and other contextual factors influence their experience satisfaction. (courtesy Bret Muter)

aged researchers to embark upon an exploration of the role of emotion in human–wildlife relationships. Second, emotions research often employs techniques that use physiological measures, which necessitate laboratory-based, experimentally designed studies. Findings from these types of studies often have limited implications for an applied field such as human dimensions of wildlife.

The exploration of emotional responses to wildlife, however, may be one of the most intriguing and fruitful areas for future investigation (Manfredo 2008). First, emotions reflect our most basic reactions to animals. Research suggests that the rudiments of emotion are inherited and interact closely with cognitive functions to affect human behavior (Izard 2007). Second, although emotions may produce uncontrolled reactions (e.g., fear, rage, anger) they are critical to sound decision making (Cacioppo and Gardner 1999). Enhancing our understanding of human behavior will ultimately occur by exploring the interrelationship of cognitive concepts such as value

orientations, attitudes, and norms with affective concepts such as emotion.

When examining this interaction between cognitions and emotions, it must be emphasized that emotions and cognitions are theorized to be part of separate systems (i.e., emotions have an effect on behavior that is independent of thoughtful processing). Zajonic (2000) emphasizes the differences between emotions and cognition. For example, there are a limited number of emotions that are universal across cultures. By contrast, there are an infinite number of cognitions that vary greatly by cultures.

Different disciplines have examined emotions using expressive reactions, physiological responses, brain imaging, importance to appraisal, and subjective experience. Given that concepts employed in human dimensions cognitive models denote mental dispositions (e.g., value orientations), one potential starting point for studying emotions felt toward wildlife is to focus on emotional dispositions. Existing literature has

Impact indicator	Standards for different elk-viewing experience opportunities		
	Highly specialized back-country elk-viewing	Specialized front-country elk-viewing	General-interest roadside elk-viewing
Development			
Physical barriers separating humans and wildlife at prime viewing areas	0 barriers	≤10% areas with barriers	Barriers installed wherever needed to increase safety
Viewing blinds or hides			
Type	Temporary blinds	Temporary or permanent	Permanent blinds
Material	Natural colored fabric	Wood-clad, indigenous structure	Wood-clad, equipped with binoculars
Size	≤50 sq. feet (4.6 m²)	≤200 sq. feet (18.6 m²)	≤600 sq. feet (55.7 m²)
Design and/or shape	Does not apply	Multilevel; irregular design to enhance privacy between viewers	Single-level; square or rectangular design; multiple access points
Trail surface	Indigenous mulch	Unpaved	Paved
Trail tread-way width	≤1 foot (0.3 m)	≤4 feet (1.2 m)	≤8 feet (2.4 m)
Crowding and/or norm tolerances			
Encounters with other groups on trails	≤4 groups/day	≤4 groups/hr	≤25 people/hr
No. of people in sight at one time	0	≤10 people	≤50 people
Percent of viewers feeling crowded	≤35%	≤35%	≤50%
Viewing distances to concentrations of elk	80% probability of viewing distance within 50 feet (15 m)	50% probability of viewing distance within 50 feet (15 m)	80% probability of viewing distance within 200 feet (61 m)
Regimentation			
Group size limits	≤4 people/party	≤8 people/party	≤25 people/party
Ranger escort	No	Yes	Yes
Freedom to roam beyond trails	Yes	No	No
Human–wildlife interaction			
No. of human–wildlife incidents involving:			
Injuries to humans	0	0	0
Disturbance to elk	0	0	0
Wildlife flight distance	≤200 feet (61 m)	≤50 feet (15 m)	≤50 feet (15 m)

Source: Adapted from Vaske et al. (2002)

defined "emotional dispositions" using two fundamentally different concepts. First, the term can reflect emotionally laden "personality traits" (Digman 1990). Using this definition, emotional dispositions can refer to a general tendency to be happy or sad (Shiota et al. 2006). Second, the term can denote criteria against which the emotional relevance of stimuli is appraised (Frijda 1986, Lerner and Keltner 2000). We use emotional dispositions in the second sense.

People do not exhibit emotional reactions randomly but rather in response to specific objects, events, or situations. The objective nature of a stimulus does not directly determine the emotional response (Scherer 1999). Rather, a process of emotional appraisal occurs. The evaluation of the stimulus (the appraisal) leads to an emotional response. Appraisal implies criteria that exist prior to appraisal, and those criteria are emotional dispositions. Only by virtue of having emotional dispositions is emotional appraisal possible (Frijda 1986).

Emotional dispositions, like all mental dispositions, are traits. While states reflect *how* you are, traits reflect *who* you are (Hamaker et al. 2007). As opposed to states, traits are always present even if they are not active. Knowledge that black bears are mammals is a property of an individual even if it is not part of current conscious thinking. As traits, emotional dispositions are relatively stable compared with states. Being scared by a bear is a temporary state that can switch on and off and differ in intensity depending on the situation; a disposition to fear bears is usually stable. The fact that many phobias are persistent illustrates the stability of emotional dispositions.

Research has revealed different types of emotional dispositions. Scholars of emotional appraisal list general criteria (labeled "appraisal dimensions" or "appraisal criteria") that are employed to evaluate the emotional relevance of situations and guide the unfolding emotional response (see, for example, Ellsworth and Scherer 2003, Sander et al. 2005). Although these lists differ in the number of and kinds of appraisal dimensions, considerable consensus exists about a limited set of primary

dimensions. For example, theory and research suggest that humans evaluate the emotional relevance of stimuli in terms of (a) novelty (has anything changed?), (b) valence (is it good or bad?), (c) goals (is it obstructive or conducive to current goals?), and (d) agency (what is the cause and can it be controlled or predicted?). These appraisals evaluate situations as follows: Is there anything new (novelty), is it relevant (valence), are there consequences (goals), and can I cope (agency)?

To illustrate this general appraisal process, imagine that a person sees a moose. The appearance of the moose is appraised as novel and draws attention and interest. If the individual generally likes moose, then the appearance is rated as positive or pleasant. The appearance is then evaluated against current goals. If the moose is blocking the road, for instance, the appraisal might depend on whether the person is wildlife-viewing or driving to work. For the latter situation, the emotional response will vary depending on the person's perceived control and prediction regarding events in the near future (e.g., easily driving past the moose vs. thinking the moose will cause an accident).

People also have emotional dispositions toward specific objects (Ellsworth and Scherer 2003). Most humans have emotional dispositions toward wildlife. Snake and spider phobias, for instance, are ubiquitous (Cook and Mineka 1989). Appraisal theorists have not focused on these object-related emotional dispositions, perhaps due to their focus on generic principles that apply to every situation. For the study of emotional responses to wildlife, however, both specific object dispositions (e.g., the disposition to fear snakes) and general situation dispositions (e.g., appraising a situation in light of a current goal) are relevant.

Emotional dispositions have different qualities (Sander et al. 2005). The object versus situation disposition distinction is one source of variation within the total set of emotional dispositions. For example, emotional dispositions may also vary between coarse-grained criteria that foster fast and automatic appraisal that does not need consciousness and finer grained criteria that are slower to process and may require conscious thought. Evidence indicates the existence of different systems to process stimuli: (a) a primarily unconscious affective system; and (b) a primarily cognitive system that includes conscious thought (Ruys and Stapel 2008, Tamietto and de Gelder 2010). This distinction lies at the basis of dual process theories (Smith and DeCoster 2000) and between implicit (unconscious) and explicit (conscious) attitudes (Gawronski and Bodenhausen 2006).

Emotional dispositions can be innate (i.e., a consequence of biological evolution) or learned (Jacobs 2009). Wildlife was crucial to early hominids' survival, so humans inherited emotional responses to wildlife (Manfredo 2008). Due to these biologically evolved fear dispositions, people tend to fear those objects that were threats to our ancestors (e.g., large predators). Other dispositions are learned. The delight of a dedicated birdwatcher that sees a rare bird after a long search is a learned disposition in which the knowledge that the bird is seldom seen plays a role.

In summary, emotional dispositions vary with respect to specific situations or specific objects, level of consciousness in operation (from completely unconscious to fully conscious), and genesis (continuum from fully innate to fully learned). An emotional reaction results from an activation of different emotional dispositions. We believe that an examination of emotional disposition offers a starting point for integrating emotional and cognitive frameworks. The conceptual and empirical challenge lies in understanding the relationships between emotional dispositions and cognitive dispositions toward wildlife. For example, emotions can enforce and reinforce the values and norms important to a social group and can communicate social acceptance or rejection. A display of disgust or pleasure about a given wildlife recreational pursuit such as big game hunting, for instance, conveys the person's orientation. This revelation invites response and provides the basis of acceptance or rejection, commonality or difference, and approach or withdrawal from the individual. The display helps define social group boundaries.

The practical challenge lies in understanding the relationship between emotions and an agency's communication campaigns. The prevailing emotional state affects wildlife managers' ability to communicate with others, to achieve stakeholder consensus, and to reach conflict resolution. Negative affect inhibits these outcomes. As managers structure their interactions with stakeholders, an important first step is to establish a positive affective state prior to negotiations. This might be accomplished by focusing on areas of agreement, facilitating social engagement to make a person feel accepted, and eliminating physical barriers that separate managers from stakeholders. Wildlife professionals often communicate with the public in a highly factual, cognitive fashion, but people relate strongly to wildlife at an emotional level. Communication can be improved by developing strategies that evoke emotional reactions.

4.1.6. Organizing Social-Psychology Concepts via the Cognitive Approach

The cognitive approach examines how values, attitudes, norms, and emotions influence behavior. We have described some concepts involved in the cognitive approach and suggested relationships among them. Of interest to wildlife managers is that the cognitive approach suggests that people's values determine their attitudes and norms, and that attitudes and norms, in turn, affect behaviors.

Using the cognitive approach can benefit wildlife managers in several ways. First, by understanding the cognitive structure, from values to behavior, each concept can be examined to determine its influence on people's actions. The approach helps us understand, for example, how people's attitudes toward wildlife use predict their likelihood of supporting legal hunting.

Second, by understanding how the concepts work beyond a specific issue, we enhance the generalizability of the research. For example, attitudes may influence behavior in a specific way regardless of the particular issue. People who distrust an

agency or organization may oppose its proposals regardless of the specifics of any single proposal.

Third, the cognitive hierarchy helps us understand regional differences in wildlife values, attitudes, and behaviors. Within a culture, we can assume those concepts operate in the same manner, although to different degrees, across individuals. That allows us to focus on the differences in attitudes from region to region. This approach may also help us discern why conflict among individuals is occurring and whether common ground can be found. For example, although two people may have drastically different behaviors while small-game hunting, they may have similar value orientations and norms regarding wildlife recreation, and management can emphasize that common ground.

Finally, the cognitive approach has the potential to help managers understand how the concepts work in different social groups. Managers can determine how specific attitudes differ and whether values and attitudes influence behavior similarly across cultures.

4.2. MOTIVATIONS AND SATISFACTION APPROACHES

While cognitive approaches improve our understanding of behavior, other approaches also contribute to that end. Substantial research has been directed toward understanding hunters' motivations for, and satisfactions associated with, participation in wildlife-related activities. Motivations drive individuals' interest in activities prior to participation. Satisfaction refers to individuals' evaluations after the experience.

4.2.1. Motivation

A *motivational approach* suggests that people are driven (motivated) to take actions to achieve particular goals (i.e., they seek certain outcomes from their experiences). Two enduring approaches to investigating motivations have emerged in the literature. One, introduced by Hendee (1974), emphasized multiple satisfactions. This approach suggested that recreationists seek a variety of benefits and outcomes. Although Hendee applied his arguments to demonstrate that hunters define satisfaction beyond merely harvest, this multiple-satisfaction idea is appropriate for all types of experiences. Wildlife watchers, for example, may seek outcomes such as solitude, being outdoors, or socializing with friends and family. The kinds of outcomes a person strives for can also change depending on the particular experience. A hunter pursuing squirrels or cottontails with his or her grandchildren has expectations and desires that may be very different from those s / he has when hunting alone.

Second, Driver and associates (Driver et al. 1991) emphasized the importance of understanding the bundle of "desired psychological outcomes" derived from recreation participation. Recreation was proposed as a way for achieving certain outcomes (e.g., achievement, stress release, family togetherness). The Recreation Experience Preference scales used to measure these outcomes were selected based on a review of the personality trait and motivation literature. In more than 30

studies, these concepts and variables have demonstrated their usefulness in helping to understand the nature of outdoor recreation experiences and recreationists themselves (Manfredo et al. 1996; Box 4.4).

Recognizing the diversity of experiences desired by participants in recreation activities, researchers have noted the importance of differentiating users into homogeneous and meaningful sub-groups. Bryan (1977:175), for example, proposed the concept of recreation *specialization,* which he defined as a "continuum of behavior from the general to the specific, reflected by equipment and skills used in the sport." Within the continuum, individuals may range from the novice to the specialist. Variations between user classes reflect differences in motivations, and the extent of prior experience with and commitment to an activity. As people become more specialized, they become more particular in their setting preferences and equipment. More specialized users are also more likely to have specific managerial requirements and are more likely to communicate with managers. Research has applied the concept of specialization to angling, hunting, and wildlife viewing (see Vaske 2008 for a review).

Other researchers have segmented hunters specifically on motivations for participation. Decker et al. (1987), for example, proposed three motivational orientations for wildlife recreation: affiliative, achievement, and appreciative. Hunters with an *affiliative orientation* participate in wildlife recreation for the enjoyment of being with others and to strengthen or affirm relationships through shared experiences. Those with an *achievement orientation* have specific goals; for example, to bag an animal that possesses certain traits (e.g., number of antler points on a deer). Hunters with an *appreciative motivation* seek peace in the outdoors and want to become acquainted with wildlife and the natural environment.

4.2.2. Satisfaction

Motivation research focuses on what initiates behavior, while satisfaction studies focus on the outcomes received from recreation experiences (Decker et al. 2004a). A number of different types of satisfactions may be associated with a recreation experience (e.g., time with family, enjoyment of the outdoors, exercise). Satisfaction is similar to Driver's notion of experience benefits (Driver et al. 1991). Satisfaction, however, can also refer to a feeling of pleasure or enjoyment derived from experiences. Using this latter definition, the concept of satisfaction becomes an attitude. In wildlife related contexts, we often are interested in satisfaction with a particular event or action.

Satisfaction is one of the most common topics of social inquiry in human dimensions because it appears simple to ask. The use of overall measures of satisfaction, however, is questionable because they tend to only measure major changes in the quality of service delivery (Decker et al. 2004a). An individual's satisfaction is complex and dependent upon a variety of aspects related to the experience, including one's expectations.

This recognition of the complex nature of satisfaction is part of the multi-faceted discrepancy model for satisfaction.

Box 4.4 *TYPES OF MOTIVATIONS IN OUTDOOR RECREATION*

Motivation theory has been associated with a goal hierarchy; motivations are proposed to be the impetus for achieving particular goal states.

Manfredo et al. (1996) conducted a meta-analysis of the Recreation Experience Preference scales to examine how certain motivations are associated with desired goals for recreation. They proposed that recreation is a way to achieve certain psychological outcomes, such as stress release. The items they used to measure those outcomes were based on a review of personality trait and motivation research. Some of the psychological outcomes or motivations studied in natural resource contexts include the following:

- *Achievement or stimulation:* Reinforcing self-image, gaining social recognition, developing skills, testing competence, having excitement, testing endurance, telling others
- *Autonomy or leadership:* Gaining independence, autonomy, control, power
- *Risk taking:* Taking risks, experiencing the risks associated with dangerous situations
- *Equipment:* Using and talking about equipment
- *Family togetherness:* Doing things with family, bringing the family closer together
- *Similar people:* Being with friends, being with similar people

- *New people:* Meeting new people, observing other people
- *Learning:* General learning, exploring, studying geography, learning more about nature
- *Enjoying nature:* Appreciating scenery, having a general nature experience
- *Introspection:* Examining spirituality, examining thoughts and feelings
- *Creativity:* Doing things that are creative, gaining new perspectives on life
- *Nostalgia:* Recollecting good times, reflecting on the past, bringing back pleasant memories
- *Physical fitness:* Getting exercise, keeping fit, feeling good after physical activity
- *Physical rest:* Feeling physically rested and relaxed
- *Escape from personal or social pressures:* Releasing tension, slowing down mentally, escaping role overloads
- *Escape from physical pressures:* Achieving tranquility, gaining privacy, escaping crowds, escaping physical stressors
- *Social security:* Being with considerate and respectful people
- *Teaching or leading others:* Teaching and sharing skills, leading others
- *Risk reduction:* Moderating risk, avoiding risk

In more than 30 studies, those scale items have helped researchers understand recreationists and their outdoor recreation experiences.

This model proposes that overall satisfaction is a function of more specific satisfaction with individual components of an experience. For example, overall satisfaction with a birdwatching trip may be a function of how satisfied one was with the weather, numbers and species of birds seen, encounters with other people, accessibility to the site, and the facilities there. Satisfaction with one of these particular components of a recreation experience is a function of the discrepancy between one's expectation for that component and what actually occurred. Therefore, if a birdwatcher expected to see a certain species of bird and did not, his or her satisfaction level may be low for that facet.

Despite its widespread application, there is still a need to understand further what influences satisfaction (the motivations and expectations that determine a person's evaluation of an experience). Managers are interested in the relationship between satisfaction and participation, which is not as direct as one might expect. A person can have a dissatisfying experience but continue to participate in an activity and vice versa. Certain satisfactions may be more important and outweigh others. It is important to determine the relative importance of different facets of satisfaction and the factors that motivate behavior.

Motivation and satisfaction approaches have made contributions in several areas. First, identifying the types of motivations provided in different environments and activities helps improve service delivery. This is particularly the case in market segmentation research and experience-based approaches to wildlife management (see Manfredo [2002] for a review).

Second, identifying the types of motivations that can be accommodated in different recreational environments and activities can help wildlife programs improve service delivery and provide more benefits. This is particularly important when hunter participation in various harvest schemes is essential for meeting management objectives.

Third, knowing the motivations can help identify the causes for conflict among stakeholders. Goal-interference models suggest that conflict occurs when the behaviors of one group are perceived to inhibit motivation fulfillment by another group (Vaske 2008). To examine a recreation conflict, a manager must first determine the motivations of the groups involved.

Fourth, an understanding of user motivations can help managers identify substitute activities—important when assessing the impact of allocation decisions. For example, restricting a wildlife-watching opportunity for which there
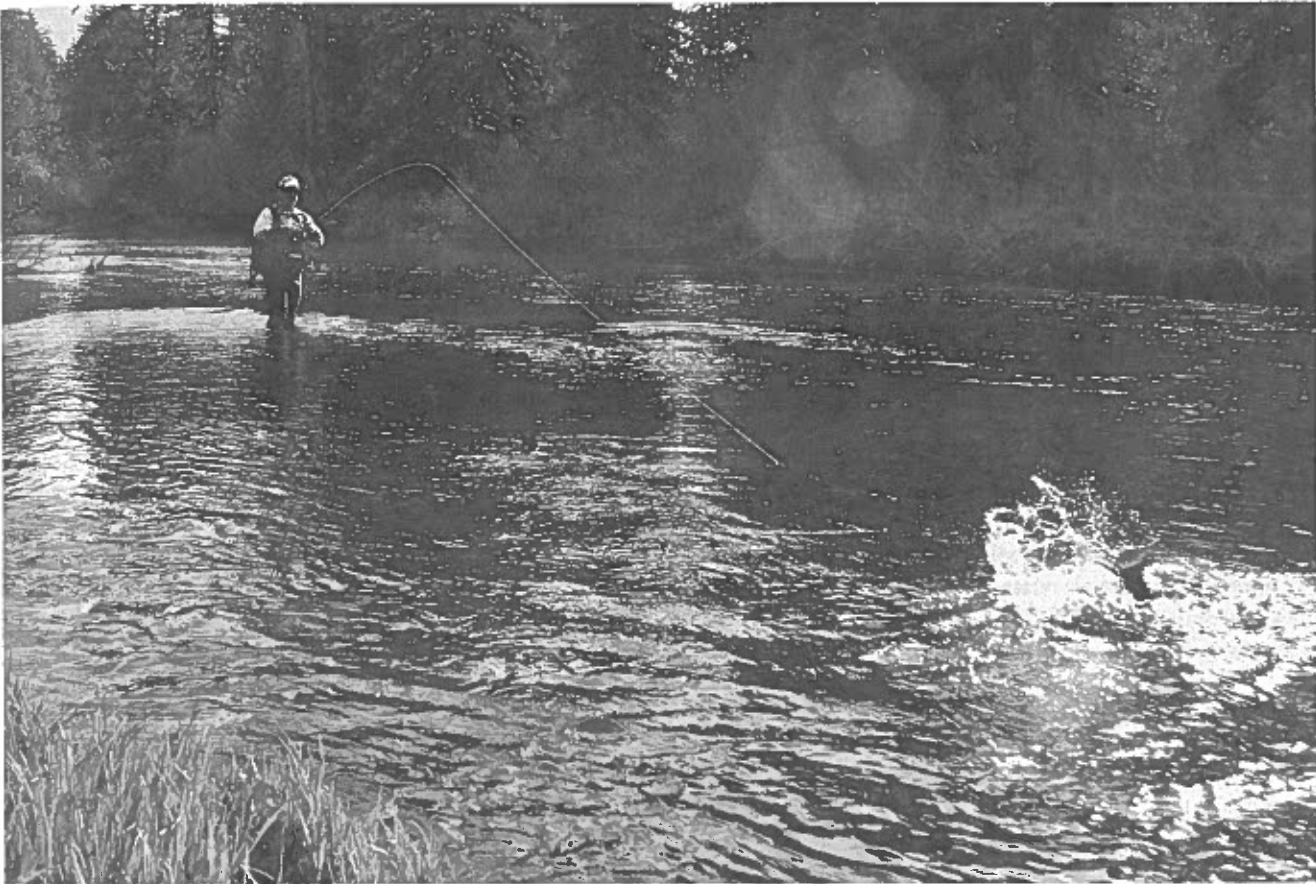
The concept of recreational specialization (now widely used to understand participation in wildlife-dependent recreation) was first developed to understand specialization among anglers (courtesy Jerry Vaske)

are abundant substitutes would have a smaller impact than restricting one that had few substitutes. A basic definition of *substitutability* holds that activities are substitutable only if they fulfill the same motivations.

Finally, understanding motivations can help a manager understand crowding. Perceptions of crowding are believed to stem in part from the types of motivations associated with an experience.

4.3. FUTURE NEEDS

Early human dimensions research was descriptive and useful only in the situation examined—essentially, case studies. Although more recent research has enhanced the generalizability and comparability across studies, more work is necessary.

There is a need to examine a broad range of human dimensions as they relate to wildlife issues. Because hunting generates most wildlife agency funding, research has concentrated on hunting issues. Wildlife managers are increasingly interested in applying social science concepts to other areas, such as wildlife viewing, trends in attitudes, reactions to techniques used in wildlife management, and habitat and non-game programs, where there is less research-based understanding of public desires and expectations.

There are several questions for which social psychological research is needed. First, what factors (such as attitudes, norms, and motivations) dictate the flow and nature of human–wildlife interactions? Second, what are the short- and long-term effects of human–wildlife interactions? For example, how do interactions affect knowledge about wildlife, wildlife value orientations, and attitudes toward wildlife uses? Third, how much can we influence and control human–wildlife interactions, and how should we communicate about wildlife and management?

Wildlife professionals should reexamine the widely held view that emotional response issues are trivial, unimportant, or non-informative. Emotional responses are a barometer of ideals that are deeply important to people and an important form of communication when management agencies deal with publics. Emotional displays frequently signify that something important is at stake to participants. More specifically, emotions reveal implications regarding threats to (or reinforcement of) a person's identity, values, and norms. Emotions merit careful consideration and thoughtful response.

The link between emotions and value orientations, attitudes, and norms has interesting implications for research on human–wildlife relationships. Research should explore whether there are predictable relationships among specific
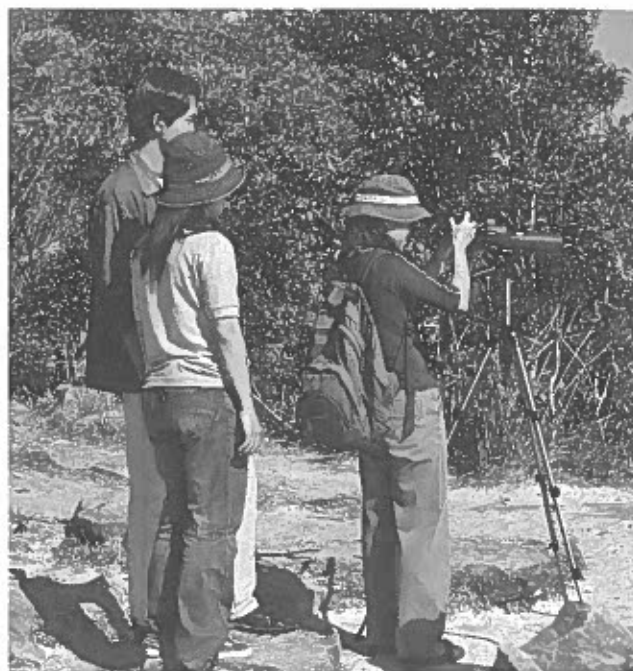
situations, value orientations, and emotional responses. An important question becomes the extent to which emotional intensity evokes certain forms of behavior over and above traditional attitude and normative measures.

Wildlife managers' need for social information in wildlife management will increase as conflicts in attitudes and interests become more contentious. That is evidenced by the increasing numbers of wildlife ballot initiatives and stakeholders' interests in becoming involved in wildlife decision making. If we understand what people do, why they do it, and what they think, we have a foundation upon which wildlife managers can work with their stakeholders.

SUMMARY

Human dimensions research that applies the discipline of social psychology contributes to knowledge about stakeholder thoughts and actions toward wildlife. This chapter introduced key principles and theory related to social psychology, which is the study of the way in which people's thoughts, feelings, and behaviors are influenced by their environment.

- *Cognitive approaches* examine concepts underlying the process that leads from human thought to action. The theories that underlie these approaches suggest that people's wildlife-value orientations influence their attitudes and norms toward wildlife and that attitudes–norms, in turn, affect wildlife-related behaviors.
- *Values* are commonly defined as desirable end states, modes of conduct, or what we hold dear. Values are general mental constructs that reflect our most basic desires and goals. They are few, are formed early in life, and are resistant to change. Compare this use of the term to that of economic value as used in Chapter 6.
- *Basic beliefs* reflect our thoughts about general objects or issues; they essentially operationalize values. *Value orientations* are patterns of direction and intensity among basic beliefs. Basic beliefs and value orientations help explain how positions toward specific issues evolve from broad values. Because value orientations directly influence attitudes and indirectly impact behaviors, understanding them can help wildlife managers predict support for management actions.
- People who share a value (e.g., respect for life) do not always share value orientations. Differences in value orientations can lead people with shared values to have different opinions about a specific wildlife-management issue.
- An *attitude* is a person's evaluation, either favorable or unfavorable, of something. Attitudes can predict and influence behavior. Knowing what attitudes and beliefs influence a behavior helps predict the behavior more accurately.
- In addition to their evaluative dimension, attitudes have a cognitive dimension—the beliefs associated with the attitude object. Beliefs are what we think are true and are not necessarily objective facts. To predict behavior, it is important to understand both the cognitive and the evaluative characteristics of an attitude.

Hunters and hunting were the focus of pioneering social-science applications to wildlife management. Managers are increasingly interested in applying social science concepts to other areas, such as wildlife viewing, trends in public attitudes about wildlife, and reactions to techniques used in wildlife management. (courtesy Jerry Vaske)

- To use an attitude as a predictor of behavior, researchers need to understand at least three of its characteristics: specificity, salience, and strength. Specific attitudes are better at predicting a specific behavior than are more general cognitions. The more salient an attitude, the more likely it is to influence behavior. More strongly held attitudes are more difficult to change.
- *Norms* are standards of behavior that specify what people should do or what most people are doing. *Social norms* are standards shared by the members of a social group. Both personal and social norms influence behavior.
- *Emotion* is part of affect, or the feeling states, of individuals. Emotion is examined from many perspectives: expressive reactions, physiological responses, importance to appraisal, and subjective experience. All of these perspectives illuminate a complex human process.
- Some situations evoke more emotionally based processes than others. Persuasive appeals that evoke emotion can be highly effective, though somewhat contextually dependent.
- People hold various motivations for participating in wildlife recreation. *Motivation theory* helps wildlife professionals identify the reasons people participate and understand the outcomes and benefits they are seeking.
- *Satisfaction* refers to benefits received from experiences. Satisfaction can also be a feeling of pleasure or enjoyment derived from experiences. In wildlife contexts, we are often interested in the satisfaction with a particular event or action.

- A person's satisfaction is influenced by the extent to which individual and situational factors associated with an experience are fulfilled. Different experiences provide different types of satisfactions.

Suggested Readings

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