DEVELOPMENT AND TESTS OF A PREDICTIVE MEASURE
FOR ASSESSING HUNTING PARTICIPATION

BY

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Progress Report:

DEVELOPMENT AND TESTS OF A PREDICTIVE MEASURE
FOR ASSESSING HUNTING PARTICIPATION

Developed for
Project W-146: Public Attitudes Toward Wildlife and Its Accessibility
Study VII: Evaluation of Participation and Satisfaction
in Wildlife-Related Activities

Prepared by

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INTRODUCTION

Understanding human behavior frequently provides the basis for decision-making relating to the recreational use of natural resources. Developing effective policy is often dependent upon the results of research measures designed to forecast or predict people's recreational-use behavior. Such predictions, however, have typically had limited success.

Recently, Ajzen and Fishbein (1980) have proposed an approach to behavioral prediction that integrates contemporary theories and previous research of human attitudes. The approach, based on their "Theory of Reasoned Action," uses a person's intention to behave as a determinant of expected behavior. This intention to behave is a function of two basic factors, one personal in nature and the other reflecting a social influence. The authors postulate that individuals will intend to perform a behavior when they believe it will lead to mostly positive outcomes and when most people with whom they are motivated to comply think the behavior should be performed. Based on this model, a measurement framework is proposed that accounts for relationships among five behavioral components specified in the theory: (1) outcome evaluations and behavioral beliefs, (2) normative beliefs and motivations to comply, (3) attitudes toward the behavior, (4) a subjective norm, and (5) the intent to perform the behavior.

To evaluate the utility of this approach to predicting recreational behavior, we have used the theoretical model to develop a measurement instrument for assessing hunting behavior (i.e., participation) among New York wildlife enthusiasts. This paper details the conceptual and operational development of that instrument and provides an analysis of its applicability and usefulness based on the results of a pilot survey.
MEASURING HUNTING BEHAVIOR

Previous research by Project 146 staff has provided several insights into hunting participation and hunting license-buying behavior (W-146: Job VII-3 "Evaluation of Hunting Programs, Participation, and Satisfaction"). Based on these earlier investigations, recent efforts (W-146: Job VII-7 "Familial Impediments/Incentives to Hunting Participation" [report preparation in progress]) to develop more sensitive indicators of the differences among hunting participants have been quite successful. Indeed, by simply knowing an individual's past license buying behavior and his/her future intent to hunt, predictions of future hunting behavior have been made that proved highly precise. Missing from this research, however, was a means of not merely predicting, but systematically evaluating and understanding the participation differences among hunters. Because of this need, the aforementioned theoretical model of behavior was used to develop an evaluative measure to enable improved predictions of hunting participation in New York State.

Initial use of the instrument is expected in an upcoming longitudinal study of differences in hunting participation among a cohort of 1983 enrollees in New York's Hunter Training Course (W-146: Job VII-8, "Dynamics of Hunting Participation Over Time"). Specific variables of interest include initiation, continuation, and desertion from recreational hunting. These variables, within the domain of hunting behavior, pertain to the degree to which individuals begin, continue, and discontinue participation in hunting. Conceptually, the model suggests that these variables may be evaluated partially by analyzing two dimensions of hunting behavior: (1) hunting outcome evaluations and behavioral beliefs, and (2) beliefs of the social
influences of hunting behavior and motivations to comply with those influences. The manner in which people "weigh" these dimensions provides an understanding of the remaining three constructs in the model: (1) an overall attitude toward hunting, (2) an overall perception of social influences on hunting, and (3) an intent to hunt. Appendix 1 illustrates the total conceptualization of the measure.

Operational definitions of the constructs within the model have been established in accordance with the measurement framework proposed by Ajzen and Fishbein (1980). The framework indicates that a general attitude toward hunting, a general perception of social desirability of hunting (i.e., subjective norm), and an intent to hunt can be measured by single evaluative statements for each construct. In fact, the theory suggests that while they provide little in the way of understanding behavior, only these three measurements are necessary for predictive purposes.

If a more complete understanding of a person's intention is to be obtained, however, it is necessary to explain why people hold certain attitudes and subjective norms. To accomplish this requires measurement of the salient beliefs underlying the attitude toward the behavior and the subjective norm. For the hunting behavior instrument, these beliefs were identified and selected from an analysis of recent Cornell research on hunting participation (W-146: Job VII-7; Investigation of Familial Impediments/Incentives to Hunting Participation [report in progress]).

Compiling the set of salient beliefs that influence hunting participation was accomplished by systematically selecting responses from an array of 20 questions designed to elicit the reasons people have for hunting or not hunting (Appendix 2). From each of the 20 questions, the set of most
frequent responses that cumulatively accounted for at least 75 percent of all reasons given were identified. Finally, those reasons that were judged to be mutually exclusive were included in the set of salient beliefs affecting hunting participation. The concepts underlying these hunting beliefs may be stated as follows:

1. Obtaining relaxation
2. Maintaining physical fitness
3. Experiencing nature
4. Opportunity to eat wild game
5. Hunting close to home
6. Availability of free-time for hunting
7. Use of hunting skills
8. Hunting supported by family/friends
9. Regulating wildlife populations
10. Killing animals
11. Traditions of hunting

Following the guidelines set forth in the behavioral model, these concepts were used to construct 28 evaluative belief statements; 22 statements measuring hunting outcomes and behavioral beliefs, and six statements measuring normative hunting beliefs and motivations to comply. Finally, all statements were incorporated into a questionnaire designed for self-administration (Appendix 3). Statements were developed using five-point Likert scale formats to enable positive or negative belief strengths to be obtained. Response formats were selected carefully to fit the evaluative need of the variables of interest. Five-point scales were believed to be appropriate for the desired measurements although their use was also influenced by space constraints on the questionnaire.

Scoring procedures for the measure were also developed according to the guidelines proposed by Ajzen and Fishbein (1980). A description of these procedures is located in Appendix 4. Pilot testing the instrument provided the opportunity to evaluate these procedures and their value in assessing hunting participation.
PROCEDURES

The pilot survey was conducted with 18 individuals in the Department of Natural Resources at Cornell University. To obtain variability in attitudes toward hunting, both hunters and non-hunters were surveyed. Twelve individuals were known hunting enthusiasts and the remainder were non-hunters. Additionally, twelve respondents were males and six were females. All individuals were informed of the purpose of the pilot test and assured of anonymity. The instrument was self-administered by respondents and in nearly all cases, returned to the researcher within one hour of receiving the instrument. Most respondents were then requested to review the questionnaire with the researcher to obtain their impressions of the survey and to help identify possible problems with statement clarity, interpretations, and appropriateness of scale response format.

Although limitations of the pilot survey are obvious (i.e., small sample size and representativeness of sample), the results nevertheless provide indicators of the utility of this instrument.

RESULTS

Ability of the Measure to Predict Hunting Participation

Using a nonparametric test for the ordinal data, Spearman correlation coefficients were obtained on total scores to evaluate the strength of relationships among components of the hunting behavior model. As illustrated in Appendix 5, positive intentions to hunt are related in a moderately strong manner to a favorable attitude toward hunting and a perception of a positive normative (social) influence on hunting. The weighted contribution of these components to hunting intention was obtained by the use of regression
analysis. Consistent with other correlations observed, regression weights suggest that for the pilot survey respondents, normative influences are somewhat more important to their intent to hunt than are their personal attitudes toward hunting. As to be expected, the combined consideration of both components on hunting intention, indicated by the multiple correlation coefficient (R), demonstrates the strongest predictor of potential hunting participation.

Clearly, these findings support the contention that only three attitudinal measurements are necessary to enable a prediction of hunting participation. An attempt to further test the validity of the measure also proved encouraging. Correlating the "1985-86 intent to hunt" with an external criterion (albeit imperfect) of whether or not individuals bought a hunting license in 1984-85 resulted in a positive relationship between these variables (see Appendix 5). Furthermore, among the nine people who purchased a license, all actually hunted in 1984. Because the current data cannot be correlated with observations of subsequent hunting participation, more accurate insights into the predictive capabilities of the measure cannot be provided at this time. Nevertheless, the pilot data indicate encouragingly that for predictive purposes, subsequent studies will be able to use such correlations to assess the likelihood of an individual's hunting initiation, continuation, or desertion.

Improving the Level of Understanding Hunting Participation

As previously stated, the degree to which behavioral intentions (or differences in hunting participation intentions) can be understood is suggested to be a function of the salient beliefs comprising the remaining
components of the behavioral model. As illustrated in Appendix 5, the relationship between one of these components, the outcome evaluations/behavioral beliefs and the overall attitude toward hunting is only moderately positive. A similar, yet slightly stronger, relationship is observed between the second component, the normative beliefs/motivations to comply and the overall subjective norm. These relationships would suggest that a moderate level of understanding may be obtained by analyzing the individual beliefs within these components. To increase this ability to understand hunting intentions, however, measurement modifications were believed necessary.

In the process of exploring areas in need of improvement, the beliefs represented within each component were reviewed. Because they were selected carefully from the results of previous, conceptually-grounded research, the belief concepts around which statements were developed are not believed to be a likely source of error. Other indicators of the types of changes needed were available. Belief statement clarity or interpretation by respondents was suspect. Comments from respondents also indicated a need to improve clarity.

Also, a review of belief statement response distributions provided corroborative evidence of a need to revise those statements comprising outcome evaluations and behavioral beliefs. Based on the preceding information, the statements provided in Appendix 6 show the changes made in items included under outcome evaluations and behavioral beliefs. These changes should improve the ability to understand the underlying beliefs affecting hunting participation.
CONCLUSIONS

Efforts to develop a predictive measure of hunting participation have provided encouraging results. The measure, which is used to assess components of an individual's attitude toward hunting participation, may yield useful indicators of the probability of hunting license purchases and subsequent hunting participation as suggested by its initial test in a pilot survey. The pilot survey also indicated that improvements in the measure were needed to enhance our understanding of the salient beliefs that influence hunting participation. Now that these improvements have been attempted, further pretesting will be conducted to evaluate the effect of the modifications and to enable final refinements. Thereafter, the measure will stand ready for its first full-scale implementation in the upcoming panel study of hunting participation by 1983 New York Hunter Training Course participants.

LITERATURE CITED

Appendix 1. Conceptual Model of the Hunting Behavior Measure

Hunting Outcome Evaluations and Behavioral Beliefs

Overall Attitude Toward Hunting

Relative Importance

Normative Hunting Beliefs and Motivations to Comply

Overall Subjective Norm

Hunting Intention

Initiation
Continuation
Desertion

Observed Hunting Behavior
Appendix 2. Questions Used for Determining Individuals' Reasons for Hunting Participation. (Taken from Questionnaire Used in Job VII-7; Investigation of Familial Impediments/Incentives to Hunting Participation.

18. The following questions refer to the many reasons involved in your hunting intentions for the 1984-85 season. Please answer EACH of the following questions as completely (but briefly) as possible, regardless of whether or not you intend to hunt next season.

A-1. Do you think you will gain something if you go hunting?
   _ No (GO TO QUESTION A-2)
   _ Yes: What do you think you will gain by hunting?
      (a)________________________
      (b)________________________

A-2. Do you think you will lose something if you go hunting?
   _ No (GO TO QUESTION B-1)
   _ Yes: What do you think you will lose by hunting?
      (a)________________________
      (b)________________________

B-1. Do you feel that others expect you to hunt?
   _ No (GO TO QUESTION B-2)
   _ Yes: What important people expect you to hunt?
      (a)________________________
      (b)________________________

B-2. Do you feel that others expect you NOT to hunt?
   _ No (GO TO QUESTION C-1)
   _ Yes: What important people expect you NOT to hunt?
      (a)________________________
      (b)________________________

C-1. Do you feel that you have opportunities that encourage you to hunt?
   _ No (GO TO QUESTION C-2)
   _ Yes: What important opportunities encourage your hunting?
      (a)________________________
      (b)________________________

C-2. Do you feel that a lack of opportunities discourages you from hunting?
   _ No (GO TO QUESTION D-1)
   _ Yes: What lack of opportunities discourages your hunting?
      (a)________________________
      (b)________________________

D-1. Do you feel you have the abilities, skills and equipment needed to hunt?
   _ No (GO TO QUESTION D-2)
   _ Yes: What important abilities, skills and/or equipment do you feel you possess?
      (a)________________________
      (b)________________________

D-2. Do you feel you lack the abilities, skills and equipment needed to hunt?
   _ No (GO TO QUESTION E-1)
   _ Yes: What important abilities, skills and/or equipment do you feel you lack?
      (a)________________________
      (b)________________________

E-1. Do you feel that family members and others support your hunting?
   _ No (GO TO QUESTION E-2)
   _ Yes: Who supports you and how do they show their support?
      (a)________________________
      (b)________________________

E-2. Do you feel that family members and others oppose your hunting?
   _ No (GO TO QUESTION F-1)
   _ Yes: Who opposes you and how do they show their opposition?
      (a)________________________
      (b)________________________

F-1. Do you feel you are committed to hunt?
   _ No (GO TO QUESTION F-2)
   _ Yes: What commits you to hunt?
      (a)________________________
      (b)________________________

F-2. Do you feel you are committed NOT to hunt?
   _ No (GO TO QUESTION G-1)
   _ Yes: What commits you NOT to hunt?
      (a)________________________
      (b)________________________

Appendix 2. Continued.

G-1. Do you feel you are forced to hunt?
   - No (GO TO QUESTION G-2)
   - Yes: What or who is forcing you to hunt?
     (a) ____________________________
     (b) ____________________________

G-2. Do you feel you are forced NOT to hunt?
   - No (GO TO QUESTION H-1)
   - Yes: What or who is forcing you NOT to hunt?
     (a) ____________________________
     (b) ____________________________

H-1. Do you have any beliefs about the characteristics or possible outcomes of hunting which incline you to hunt?
   - No (GO TO QUESTION H-2)
   - Yes: What important beliefs incline you to hunt?
     (a) ____________________________
     (b) ____________________________

H-2. Do you have any beliefs about the characteristics or possible outcomes of hunting which discourage you from hunting?
   - No (GO TO QUESTION I-1)
   - Yes: What important beliefs discourage you from hunting?
     (a) ____________________________
     (b) ____________________________

I-1. Is hunting compatible with your important personal morals or values of what is right?
   - No (GO TO QUESTION I-2)
   - Yes: What are your morals or values which favor hunting?
     (a) ____________________________
     (b) ____________________________

I-2. Is hunting incompatible with your important personal morals or values of what is right?
   - No (GO TO QUESTION J-1)
   - Yes: What are your morals or values which are incompatible with hunting?
     (a) ____________________________
     (b) ____________________________

J-1. Is hunting compatible with most of your existing habits and customs?
   - No (GO TO QUESTION J-2)
   - Yes: What habits or customs of yours favor hunting?
     (a) ____________________________
     (b) ____________________________

J-2. Is hunting in conflict with most of your existing habits and customs?
   - No (GO TO QUESTION 19)
   - Yes: What habits or customs of yours conflict with hunting?
     (a) ____________________________
     (b) ____________________________
Appendix 3. Pilot-Tested Self-Administered Hunting Behavior Questionnaire

With Labelled Conceptual Components.

**HUNTING_ATTITUDE_SURVEY**

The following questions are concerned with your views about hunting. Your responses will help us understand more about hunting and how to improve opportunities for hunters to benefit from New York’s wildlife resources.

In addition to a few general questions, we would like to get some information about your possible participation in the upcoming 1985-86 hunting season. Please indicate how you feel about EACH of the following by circling the number to the right of each statement that best reflects your feelings.

The information you provide will be kept strictly confidential and will never be associated with your name.

THANK YOU FOR YOUR ASSISTANCE

<table>
<thead>
<tr>
<th>INTENT TO HUNT</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I intend to hunt in New York State in the upcoming 1985-86 hunting season</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUTCOME EVALUATIONS</th>
<th>Very Good</th>
<th>Good</th>
<th>Neither</th>
<th>Bad</th>
<th>Very Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>That hunting causes relaxation is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>That hunting provides physical exercise is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>That hunting provides an understanding of nature is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>That hunting gets wild game for the table is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Having areas to hunt in near home is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix 3. Continued.

<table>
<thead>
<tr>
<th>Belief</th>
<th>Very Good</th>
<th>Good</th>
<th>Neither</th>
<th>Bad</th>
<th>Very Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>That hunting occupies free time that could be used for other activities is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Confidence in personal hunting skills is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The support of family and/or friends for hunting is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Letting populations of game animals regulate themselves (without hunting) is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>That hunting results in the killing of game animals is</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Traditions of hunting with family and/or friends are</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Behavioral Beliefs**

<table>
<thead>
<tr>
<th>Belief</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would make me LESS relaxed than I usually am</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would help me stay physically fit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would let me learn more about nature</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would let me get wild game for the table</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix 3. Continued.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would require me to travel long distances from home more often than I like in order to go hunting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would require me to use free time for hunting that could be used for other activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would let me use my hunting skills confidently</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would be discouraged by family and/or friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would help regulate populations of game animals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would result in the shooting of some game animals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My participation in the upcoming 1985-86 hunting season would let me maintain hunting traditions with family and/or friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

SUBJECTIVE NORM

Most people who are important to me expect me to hunt in the upcoming 1985-86 hunting season | 1 | 2 | 3 | 4 | 5 |

NORMATIVE BELIEFS

Most members of my family expect me to hunt in the upcoming 1985-86 hunting season | 1 | 2 | 3 | 4 | 5 |
Appendix 3. Continued.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of my close friends expect me to NOT hunt in the upcoming 1985-86 hunting season ..........</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Most of my co-workers expect me to NOT hunt in the upcoming 1985-86 hunting season ..........</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**MOTIVATIONS TO COMPLY**

Generally speaking, I want to do what my family thinks I should do .................. | 1     | 2       | 3         | 4                  | 5                  |

Generally speaking, I want to do what my close friends think I should do .................. | 1     | 2       | 3         | 4                  | 5                  |

Generally speaking, I DO NOT want to do what my co-workers think I should do .................. | 1     | 2       | 3         | 4                  | 5                  |

******************************************************************************

**ATTITUDE TOWARD BEHAVIOR**

<table>
<thead>
<tr>
<th>Very Favorable</th>
<th>Favorable</th>
<th>Neither</th>
<th>Unfavorable</th>
<th>Very Unfavorable</th>
</tr>
</thead>
<tbody>
<tr>
<td>My attitude toward hunting in the upcoming 1985-86 hunting season is ........</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

******************************************************************************

Did you purchase a hunting license for this current 1984-85 hunting season?

____NO

____YES --- If yes, did you hunt at any time during the 1984-85 season?

____NO

____YES

What is your sex?

____FEMALE

____MALE

Ajzen and Fishbein (1980) suggest that understanding the relationships among only three variables is all that is necessary to predict behavior; these are the correlations between the attitudes toward the behavior, subjective norm, and behavioral intention. They further suggest, however, that the prediction will hold only if strong correlations exist between the measure's two multi-item components (i.e., outcome evaluations/behavioral beliefs and normative beliefs/motivations to comply) and their counterpart single-item measures (i.e., attitudes toward the behavior and subjective norm, respectively). Accomplishing this requires the calculation of a total score from each of the two components that are used to reflect an attitude. For example, a person's score for an evaluation of a hunting outcome is multiplied by the score reflecting his/her belief strength that performing the behavior will lead to that outcome. The sum of the products for the total set of beliefs within this component reflects the attitude. The same procedure is conducted to obtain an attitude score within the behavioral component of normative beliefs and motivations to comply.

Hunting Outcome Evaluations and Behavioral Beliefs

Overall Attitude Toward Hunting

Relative Importance

Hunting Intention

Normative Hunting Beliefs and Motivations to Comply

Overall Subjective Norm

Previous (1984) Hunting License Purchase

Yes (N=9)

Actually Hunted? Yes=100%

Observed Hunting Behavior

Initiation

Continuation

Desertion

\[ r = \text{Spearman correlation coefficients} \]
\[ W_1, W_2 = \text{Multiple regression weights indicating relative importance of components to prediction of intention} \]
\[ R = \text{Multiple correlation coefficient---indicates degree to which intention can be predicted from the simultaneous consideration of two behavior components (1.0=perfect predictability).} \]
Appendix 6. Belief Statement Improvements Developed for Outcome Evaluations/Behavioral Beliefs.

<table>
<thead>
<tr>
<th>Outcome Evaluations</th>
<th>Very Enjoyable</th>
<th>Enjoyable</th>
<th>Neither</th>
<th>Unenjoyable</th>
<th>Very Unenjoyable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. For me, feelings of relaxation gained through outdoor recreation are ........1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2. For me, gaining physical fitness through outdoor recreation is ..............1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3. For me, experiencing nature through outdoor recreation is .................1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4. For me, eating wild game is . .........1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5. Being able to have outdoor recreation activities close to my home is ........1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6. For me, having adequate free time for outdoor recreation activities is ........1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>7. Having confidence in my outdoor recreation skills is .. . . . . . . . . . . . .</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>8. Being supported in my outdoor recreation preferences by my family and/or friends is ..</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>9. For me, helping to regulate populations of game animals is . . . . . . . . .</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>10. For me, successfully harvesting game animals is . . . . . . . . . . . . . . .</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>11. Having traditions of outdoor recreation activities with my family and/or friends is . .</td>
<td>2</td>
<td>3</td>
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<td>5</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 6. Continued.

<table>
<thead>
<tr>
<th>Behavioral Beliefs</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My participation in the upcoming 1985-86 hunting season would NOT be relaxing</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>2. My participation in the upcoming 1985-86 hunting season would help me keep physically fit</td>
<td>1</td>
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<tr>
<td>3. My participation in the upcoming 1985-86 hunting season would let me experience nature</td>
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<tr>
<td>4. My participation in the upcoming 1985-86 hunting season would give me an opportunity to eat wild game</td>
<td>1</td>
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<tr>
<td>5. If I participate in the upcoming 1985-86 hunting season, most of my hunting would NOT be done close to home</td>
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<tr>
<td>6. My participation in the upcoming 1985-86 hunting season would require me to find more free time than I usually have available</td>
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<td>2</td>
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<tr>
<td>7. My participation in the upcoming 1985-86 hunting season would let me use my hunting skills confidently</td>
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<tr>
<td>8. My participation in the upcoming 1985-86 hunting season would be discouraged by family and/or friends</td>
<td>1</td>
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</tr>
</tbody>
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<td>9. My participation in the upcoming 1985-86 hunting season would help regulate</td>
<td>1</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>populations of game animals</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>10. It is likely that I would successfully harvest some game animals if I parti-</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>cipate in the upcoming 1985-86 hunting season</td>
<td></td>
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<td>11. My participation in the upcoming 1985-86 hunting</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>season would let me maintain hunting traditions with family and/or friends</td>
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