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## Using Simple Educational Methods to Motivate Consumers to Prepare for Emergencies

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## Using Simple Educational Methods to Motivate Consumers to Prepare for Emergencies

### Abstract

The purposes of the study reported here were to determine: a) if simple educational efforts (a workshop and a booklet) would motivate consumers to prepare their homes for an emergency and b) which variables would best explain if consumers took action. Over 50% of respondents reported preparing for an emergency because of the booklet or workshop. Older and more educated consumers were more likely to take action. Commonly reported actions included storing food, water, and emergency supplies. Variables that best predicted if emergency preparedness actions were taken included: attendance at a Y2K workshop, reading the entire booklet, and having at least a high school education.

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## Background

Emergency situations from earthquakes to power outages occur frequently throughout the world. However, emergency preparedness is an aspect of public safety often overlooked. Most consumers are not prepared to handle emergency situations (Lambert, 1999b; American News Service, 1999a). Even in places where natural disasters such as hurricanes and tornadoes occur frequently, residents generally are not prepared (Rustemli & Karanci, 1999; Faupel, Kelley, & Petee, 1992; Garcia, 1989). According to Julius Becton Jr., former director of the Federal Emergency Management Agency (FEMA), "Educating the public to the many different hazards which confront people" increases emergency preparedness and can prevent or lessen the effects of disaster situations (Becton, 1986). Studies show that education has a positive influence on consumer's emergency preparation behavior (Asgary & Willis, 1997; Faupel Kelley, & Petee, 1992).

Possible disruptions in daily living attributed to the Y2K (year 2000) computer bug presented consumers with a potential emergency because nearly every part of the world could have been affected. In reality, Y2K was a consumer issue (Abrahms, 1998), as demonstrated by the vast media coverage both encouraging and ridiculing consumers for preparing for the arrival of the year 2000. Some print media reflected a "survivalist" attitude, urging consumers to store months or years worth of supplies, including nonperishable foods and water, medicine and candles (Belanger, 1999; Sheaffer, 1999).

During the late 1990's, many grassroots organizations were created to promote awareness of Y2K. In many cases, organizations arose from residential concern about Y2K emergency preparedness issues (Abrahms, 1998; Lambert, 1999a). Concerned citizens, public officials, and volunteers distributed pamphlets, issued public service announcements, gave speeches, organized seminars,

and made videos on the topic (American News Service, 1999b). Many saw the approaching year 2000 as an ideal time to inform consumers about basic household emergency preparedness and other household management practices that should be used all the time (Bowen, 1999). Pfahl (1999) summarized the thoughts of many emergency preparedness professionals in a single sentence: "More than anything else, what most people need is knowledge, and practice in using that knowledge before it is needed in a crisis" (p. 14).

Penn State Cooperative Extension developed and implemented two educational efforts in response to consumer questions and concerns about Y2K: an educational workshop and a booklet. Both promoted Y2K awareness and were designed to motivate consumers to prepare their homes for emergency situations. The premises were that:

- Key actions taken in the home would help consumers manage during an emergency period and help them handle an emergency with more confidence and less panic; and
- With adequate household preparations, the demand on community organizations and local emergency management agencies would be decreased during an emergency period.

Penn State Cooperative Extension educators conducted educational workshops throughout 1999. Workshops were presented on household emergency preparation and the arrival of the year 2000. Workshops were held in more than one-third of Pennsylvania's 67 counties, and ranged from 1.5 to 2 hours in length.

The booklet, *Consumers and the Year 2000*, was based on sound emergency management practices used by the FEMA and the American Red Cross. The information was condensed to the essentials and formatted into a user-friendly, 4-page booklet.

The booklet was distributed throughout Pennsylvania at workshops and mailed to citizens who requested a copy through their local Extension office. In addition, large employers (e.g., hospitals) and community and civic organizations (e.g., places of worship) also distributed copies. From March to December 1999, 122,000 copies of the *Consumers and the Year 2000* booklet were distributed. The booklet could also be accessed on the Internet at the Penn State Cooperative Extension Family and Consumer Sciences Web site.

To assess the usefulness of the workshop and booklet, the *Y2K User Feedback Response Card* was developed. The postage-paid card, 8" x 5" with a 4" x 5" tear-off reply section, was distributed to consumers who attended workshops, requested the booklet from Extension offices, or received the booklet from an employer who distributed copies.

### **Purpose and Objectives**

The study reported here investigated the educational impact of the booklet and workshop on consumer preparation for Y2K and other emergency situations. The objectives of the study were to determine:

1. If the workshop and booklet motivated consumers to prepare their homes for an emergency,
2. What actions consumers took to prepare for emergencies, and
3. Which variables best explained whether or not consumers took emergency preparation actions.

### **Methods**

Data were collected from workshop attendees who returned the Y2K user feedback response card. A total of 357 cards were returned. Response cards were returned to a central address and accepted from June 1999 until January 15, 2000. Extension educators and large employers were asked to distribute the response cards with the booklets. All county offices of Penn State Cooperative Extension (n=67) were sent 100 cards for distribution. Large employers were given the same number of response cards and booklets. No records were kept of the number of feedback cards distributed to consumers. Therefore, a response rate could not be determined.

The Y2K user feedback response card asked consumers to report:

1. How much of the booklet they read,
2. If they attended a workshop, and
3. If they took any action because of information learned from the workshop or the booklet.

If they had taken action, consumers could list up to two things they did. To identify the types of action taken, a coding scheme was developed based on emergency preparation themes highlighted in the booklet. Demographic information was also solicited from respondents, including county of residence, the size of their community (from rural farm to city of over 50,000), gender, age, and highest level of education completed. Responses were anonymous, therefore no follow-up of non-respondents was conducted.

## Results

### Characteristics of Respondents

Table 1 presents a demographic profile of the respondents. Respondents were primarily female (80%), older citizens (59% age 50 or older), and well-educated (60% post-high school training). Respondents from 55 counties completed the response cards, with most (75%) residing in rural communities or towns of less than 25,000 inhabitants.

**Table 1.**  
Characteristics of Respondents\*

Characteristic	Frequency (n=357)	Percentage (%)
<b>Gender</b>		
Female	277	80
Male	71	20
<b>Age</b>		
Under 18	15	4
18-34	46	13
35-49	85	24
50-64	83	23
65 or older	128	36
<b>Education</b>		
Less than high school graduate	57	16
High school graduate	87	24
Technical school/some college	71	20
College graduate or beyond	141	40
<b>Community Size/Type</b>		
Rural community (less than 2,500)	141	40

Town (2,500-24,999)	122	35
City (25,000 or more)	88	25
* Frequencies and percentages are reported exclusive of missing values.		

### Consumer Actions Taken

As shown in Table 2, slightly more than half (53%) of the respondents attended a workshop. Forty percent (40%) reported reading the booklet to some extent, with nearly half (48%) reading the entire booklet. Only 12% did not read any of the booklet. Finally, 53% of respondents indicated they took some emergency preparation action because of information presented in the booklet or the workshop. Of the 188 respondents who took action, most indicated storing food and water (63%), and basic items such as batteries and candles (47%).

**Table 2.**  
Consumer Responses to Feedback Questions\*

Question and Response Option	Frequency (n=357)	Percentage (%)
<b>Attended workshop</b>		
Yes	187	53
No	166	47
Extent to which booklet was read		
Haven't looked at it	42	12
Skimmed or read parts of it	141	40
Read the whole thing	170	48
<b>Action taken because of booklet or workshop</b>		
Yes	188	53
No	169	47
<b>Types of actions taken**</b>		
Storing food and water	118	63
Storing basic items	88	47
Planning tasks	48	25

Educating others	26	14
Miscellaneous	24	13
Money matters	23	12
Medical matters	14	7
* Frequencies and percentages are reported exclusive of missing values. ** Percentages exceed 100% because multiple responses were provided.		

### Factors Motivating Consumers to Take Action

Chi-square analyses revealed that middle age to older respondents ( $X^2 = 13.11$ ,  $df = 3$ ,  $p = .00$ ) and those with higher levels of education ( $X^2 = 19.12$ ,  $df = 3$ ,  $p = .00$ ) were significantly more likely to report preparing for an emergency. Furthermore, those who read part or all of the booklet ( $X^2 = 42.57$ ,  $df = 3$ ,  $p = .00$ ) or attended a Y2K workshop ( $X^2 = 6.56$ ,  $df = 1$ ,  $p = .01$ ) were significantly more likely to report taking action than those who did not read the booklet or attend a Y2K workshop.

Logistic regression was used to determine the relationship (if any) between whether respondents took emergency preparation action (dependent variable) and the following independent variables:

1. Extent to which the booklet was read,
2. Attendance at a workshop, and
3. Highest educational level.

In contrast to linear or multiple regression, which is used to determine the influence of continuous independent variables on a continuous dependent variable, logistic regression is used when the dependent variable is categorical or dichotomous and the independent variables are interval level or dichotomous (Morgan and Greigo, 1998). Table 3 summarizes the results.

**Table 3.**  
Logistic Regression Summary for Variables Regressed on Action Taken\*

Variable	B	Wald	Exp B	Significance
Attended workshop (0=no vs. 1=yes)	1.118	16.38	3.0595	.0001
Read entire booklet (0=no vs. 1=yes)	.824	8.81	2.28	.003
High school graduate or higher level of education (0=no vs. 1=yes)	1.099	7.35	3.00	.006
$(X^2 = 31.55, df = 3, p < .0001)$ *Note: The logistic regression analysis is based on 327 responses. Thirty responses were excluded from this analysis because some workshop attendees did not have an opportunity to take action before completing the response card.				

All three variables significantly influenced whether respondents took action (Table 3). Specifically, respondents who attended a workshop and who completed high school or a higher level of education were three times more likely to take emergency preparation actions. Respondents who read the entire booklet were two times more likely than those who did not read the entire booklet to take action were.

## Conclusions and Implications

The study was conducted to determine the impact of a workshop and booklet on motivating consumers to prepare for an emergency. Readers should view the results with some caution as it relates to applicability of findings to a larger population. Specifically, no records were kept of the actual number of user-feedback cards distributed to assess the usefulness of the workshop and emergency preparedness booklet. Moreover, the primary intent was to meet consumer demand for information on a topic of immense interest. The goal of the study was to ascertain the value and use of the information and materials.

The findings suggest that public awareness of key issues, such as emergency preparedness, can be increased with simple educational methods. The booklet and the workshop significantly influenced consumers to prepare for an emergency. Consumers who attended a workshop were three times more likely than those who did not attend a workshop to prepare for an emergency were. Those who read the entire booklet were twice as likely to prepare for an emergency than those who did not read the entire booklet were. In addition, chi-square analyses indicated that middle age to older consumers (35 and older) and those with higher levels of education (high school and above) were significantly more likely to take action than younger adults or those without a high school education.

While these results may be encouraging for Extension educators who routinely use printed material and workshops to reach audiences, the findings of this report must be viewed cautiously because the sample was not randomly selected. In addition, the worldwide media focus on the arrival of the year 2000 could have contributed to these consumers' preparation actions.

Following are some specific implications drawn from the study.

1. Educational workshops will continue to be an effective way to reach some audiences. Older consumers who have time and who find reading difficult because of visual problems may prefer to attend workshops. Also, individuals with underdeveloped reading skills may prefer workshop where immediate clarification can be obtained on questions.
2. Nearly half of the respondents reported reading the entire booklet, *Consumer and the Year 2000*. It was short, four pages of content, and written in a format that facilitated action. It could be read at one sitting in about 10 minutes. Brevity should be remembered when planning educational materials. In a time-crunched society, providing information in a bulleted, user-friendly format may increase use. Even when consumer interest is strong on a particular topic, brevity and visual appeal in printed matter are factors that should be considered.
3. Incorporating minor practices into routine daily living activities may encourage consumers to make desirable changes. Preparing for an emergency by storing water and foods could be accomplished easily during routine shopping trips. In the study, storing food and water was the most frequently reported activity among those who took action.
4. Age and education level significantly influenced consumers' emergency preparation action taken. Similar findings have been reported by others (Homes & Neighbors, 2000). Middle age and older persons as well as the highly educated may be more receptive to messages on preparing households for emergencies and thereby be a target audience for this topic. Conversely, special efforts may be needed to reach younger consumers and those who have not graduated from high school.
5. Paying attention to the national media can be useful in identifying educational programs that may be demanded by the public or created in anticipation of a public need. In either case, a topic in the national media and/or a topic that is of immediate concern can be helpful in attracting an audience for educational programs.

The self-selected sample paves the way for research on emergency preparedness using a random sample. Also, this study was conducted in the context of a unique emergency situation, Y2K, which received worldwide media attention. It would be beneficial to explore consumer emergency preparedness actions to an educational program during a time when the media is not focusing on a potential emergency situation.

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