

FAMILY CHARACTERISTICS
AFFECTING EMERGENCY PREPAREDNESS:
AN EXPLORATORY JOURNEY*

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Summary

This study addresses the issue and the need to identify the factors that contribute to the implementation of family emergency preparedness activities such as planning. The identification of such factors could help emergency managers and officials to emphasize the proper means of improving family preparation in case of emergencies. Past research has identified a path toward such factors. This paper focuses on the family structure, and the socioeconomic and life experiences as potential factors influencing family emergency preparedness. The results are expected to indicate that the variables studied relate to family emergency preparedness. At the moment of writing this paper, the study is in progress, the actual results will be released at the conference.

INTRODUCTION

Disasters are not something of general interest to the average citizen because the idea of being a victim of such events does not often cross their mind. However, some recent disasters have demonstrated our vulnerability in facing such wide-scale destruction. Disasters can affect a nation or a community, but will always affect society's most basic unit, the family.

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As Perry (1988, p.271-272) noted, before the Second World War little was known about reactions to disasters and some mistakes can be traced to this lack of knowledge. Since the Second World War and the following threat of a nuclear attack, Canada, the United States and many other Allied countries initiated civil defense programs. Such programs aimed at reducing the effects and losses caused by an eventual nuclear attack (Kreps 1990, p.276-277; Mileti 1989, p.57). These programs were initiated at the national level and had to be implemented locally. In this early stage of developing a general awareness of emergency preparedness, governments expected the public to play a part in these initiatives by preparing shelters, stocking food and water and taking other self-protective measures.

Years have passed, the Cold War is over, and the threat of nuclear attack appears greatly reduced. However, many other disasters continue to affect our communities. Although nuclear incidents remain a concern, they have never occurred as often as other destructive technological, natural and social events. Today governments continue to rely on the population to adopt some self-protective measures. For example, recommendations have been made to the California population to prepare to protect and support themselves for the 72 hours following a major earthquake.

Preparedness is a concept used to represent a series of self-protective behavior that can directly or indirectly mitigate the loss of life and property in a disaster (Faupeil et al. 1992, p.6). Sorensen (1983) has argued that scholars and officials typically expect that public education and the dissemination of information will result in more adaptive behavior when disaster strikes. Over time, it has been concluded, losses from hazards such as hurricanes, floods, earthquakes, and other geophysical events will be reduced. The interest behind public involvement in emergency preparedness is twofold. First, if realized, public involvement reduces the burden on emergency services and organizations. Second, it creates a common objective for both the government and the public. This common objective will avert or greatly reduce the risk of creating a conflict between these two groups' interests.

For the last fifty years, many industrialized nations have attempted to stimulate, train and otherwise encourage public involvement in disaster preparedness but have experienced varied results. Edwards (1993, p.294 citing Weinstein 1987) declared that despite the extensive body of research concerning improvement of individual preparedness for disasters, attempts to mitigate the losses of

disaster victims through individual precautions often meet with limited success. In her study, Edwards evaluated the adoption of self-protective behavior through a self-administered mail survey. The most consistent results appear to have occurred in situations where a disaster was imminent. Most, if not all of the studies related to family preparedness have dealt with a population threatened by an imminent disaster or recovering from a recent one.

Very little literature exists on family emergency preparedness and the factors affecting it. It has been confirmed by Faupel et al (.1992, p.5) that there is a noted paucity of literature on this subject. Drabek (1986, p.21) described disaster preparedness as a "complex black box that few investigators have sought to explore empirically." Yet the importance of preparedness comes from its potential to reduce human and material losses and to increase control over disaster response activities (Klonglan et al. 1973). The purpose of this paper is to provide greater insight on family emergency preparedness by examining a variety of family characteristics associated with emergency planning. A study of such factors could help identify areas where an emphasis on emergency planning can be particularly helpful.

A MODEL FOR FAMILY EMERGENCY PREPAREDNESS

Family Preparedness

Preparedness includes any pre-disaster action which is assured to improve the safety and effectiveness of a disaster response (Gillespie and Streeter, 1987, p.157 in Edwards, 1993, p294). Faupel et al (1993, p. 236) in their study, defined emergency preparedness as having family planning meetings, having a plan for what to do if the family is separated, identifying a safe spot in one's home, and establishing an evacuation route. In 1989, Myers (in Faupel, 1993, p.230) suggested that preparation on a community based scale before disaster strikes may reduce the impact of disaster trauma and equip people with personal tools for living through the experience with less physical, social and emotional damage than they might otherwise suffer (p. 202).

The objective of this study is to discover which factors and the extent to which these factors (independent variables) most affect family emergency preparedness. The existing literature indicates that three groups of factors are used to explain individual or family response in case of imminent and actual disasters. It is reasonable to assume these same factors can also influence family emergency

preparedness which includes the actual response when the disaster strike. These groups of factors include the family structure, socioeconomic factors, and life experience (see figure 1). A detailed explanation of each of these groups and how they affect family emergency preparedness follows.

Family Structure

Three aspects of the family as a social structure are represented in the family emergency preparedness model. Faupel et al. offered that "... marital status and the number of dependents in a household all suggest some level of social integration, by that increasing the likelihood of protective behavior" (1992, p.15).

Number and Age of Children

The more children there are in the family, and the younger their age, the more likely the parents will have a greater sense of responsibility and will consequently develop certain protective measures to be applied in everyday emergencies or in a disaster (Bourque et al.1973; Turner et al. 1986). Edwards (1993) has tested this hypothesis and found a significant positive relationship. She offers two reasons for this. First, parents are typically more concerned about their children's safety than their own. Second, children may bring home information from school, about self-protective measures.

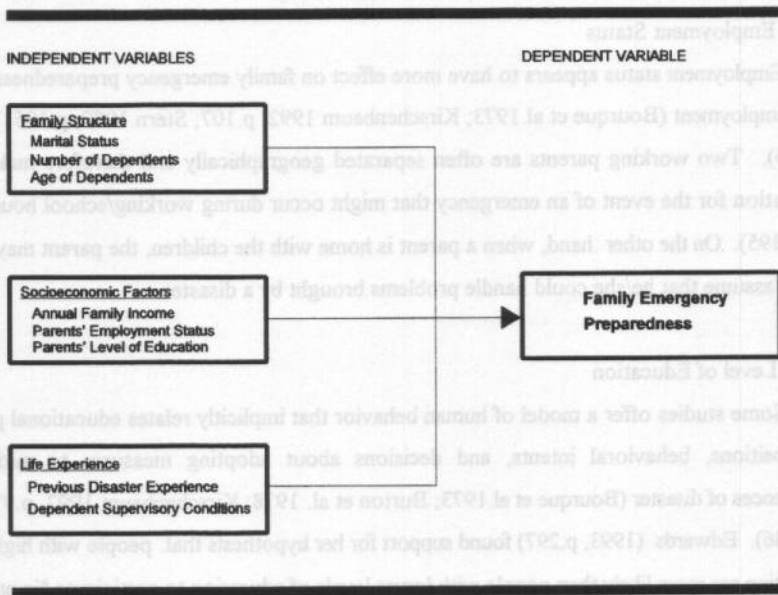
Marital Status

Marital status, as expected, often acts as a consolidator of the family social organization and should therefore, influence interest in emergency preparedness (Faupel 1993, p.237). A single parent, on the other hand, may have more responsibilities with family emergency preparedness receiving less attention.

Socioeconomic Factors

Socioeconomic factors have been identified by many experts as related to emergency preparedness.

Figure 1. Factors Affecting Family Emergency Preparedness



Annual Family Income

Annual income has been shown to have a significant relationship to self-protective behavior. Edwards asserts that people with higher annual incomes are more likely than people with lower annual incomes to participate in emergency preparedness activities (1993, p.297). She justly adds that income can also represent a means of achieving some level of preparedness measures that would not be affordable to the less advantaged. Others have also confirmed the correlation between the availability of monetary resources and the level of family preparedness and cite similar reasons (Bourque et al.1973; Burton et al. 1978; Turner et al. 1986).

Parents' Employment Status

Employment status appears to have more effect on family emergency preparedness than the type of employment (Bourque et al.1973; Kirschenbaum 1992, p.107; Stern 1989, p.195; Turner et al. 1986). Two working parents are often separated geographically and therefore make special dispensation for the event of an emergency that might occur during working/school hours (Stern, 1989, p.195). On the other hand, when a parent is home with the children, the parent may be more likely to assume that he/she could handle problems brought by a disaster.

Parents' Level of Education

Some studies offer a model of human behavior that implicitly relates educational processes to dispositions, behavioral intents, and decisions about adopting measures to mitigate the consequences of disaster (Bourque et al.1973; Burton et al. 1978; Kirschenbaum 1992, p.97; Turner et al. 1986). Edwards (1993, p.297) found support for her hypothesis that people with higher levels of education are more likely than people with lower levels of education to participate "in emergency preparedness activities." These findings are consistent with those of other researchers (e.g.Bourque et al., 1973; Mack and Baker, 1961; Moore et al., 1963; Neal et al., 1982; Palm, 1981 in Faupel, 1992, p.14; Faupel, 1993, p.237; Stern, 1989, p.195). Many scholars have concluded that those with a higher level of education are more likely to take self-protective measures.

Life Experience

There are at least two types of experience a family may have. The first is a previous

experience with an emergency or disaster that required some sort of an evacuation. The second type of experience involves the supervisory situation of the dependents in the family.

Previous Family Experience with Emergencies

Of all the factors discussed in the literature reviewed, prior disaster experience was the single most important predictor of preparedness for households (Faupel, Styles and Petee, 1992, p.18). However, one study which attempted to link previous experience and training in one situation to the preparedness for another type of emergency found no significant correlation (Faupel et al. 1992). In this study Faupel et al. evaluated the effects of an earthquake specific education program to find out if there was any transference of knowledge from one disaster type to another.

Dependents Supervisory Situation

The only study found that has examined the effect of the geographical distribution of parents and children on intended behavior in the event of an emergency is that of Stern (1989). This study specifically addressed family emergency preparedness by looking at the various factors affecting it. He concluded from his study that parents who are not involved in direct supervision of their children because of either their work or because of the children being at school, will be more likely to initiate family emergency preparedness activities than those directly involved in the supervision of their children. In our study we classify children, persons with disabilities and elderly as dependents.

METHODS

Sample

The data for the present study was obtained from a telephone survey of 1 000 residents of the Montreal Urban Community, Quebec, Canada conducted in March 1996. This area is composed of 29 municipalities on the Montreal Island. The survey instrument used consisted of 36 questions and was preceded by a pretest to ensure the validity of the questions. Respondents were guaranteed confidentiality.

The sampling frame used was the residential listing of the phone book. The numbers were obtained from the PROCD CANADA PHONE (Edition 1, 1996). This sampling frame has some

limitations. First, some people do not have a phone, some others have more than one phone number and some others have chosen not to appear in the listings.

Stratified sampling was used to obtain a random sample. The stratified sampling ensured that the proportion of residents from each of the 29 municipalities in the sample would be the same as in the population under study. This sampling method reduces the expected sampling error (Babbie, 1992, p.215). To avoid the bias presented by the suggestion that a certain type of person answers the phone, a screening process was included, by which, the interviewer would ask for the mother in some households and for the father in others. The phone interviews were conducted by Opinion Impact, an independent marketing research firm based in Montreal.

Representativeness of the Data

Income, education, employment and household structure information were collected from Statistics Canada. This information from our sample will be compared to ensure the representativeness of the data. Quality inferences from our study sample to the population will be dependent on this representativeness.

MEASUREMENT

Family Emergency Preparedness, the dependent variable, was measured by three questions. One question asked each respondent whether or not they have in their home emergency supplies (flashlight, radio, water, food, etc.) in their home. A second question asked about the presence of emergency supplies in their car. The third question asked if their family has discussed, prepared or tested these four specific emergency activities: establishing an evacuation plan, identifying a meeting place in case of evacuation, establishing protective actions to take in case of confinement, and choosing a contact phone number in case the family is separated.

Family Structure was evaluated through three variables. The first one was the number of dependents. The second variable was the age of the dependents. The ages of the children were recoded to show the presence or absence in the household, of children in age groups from 0 to 5, 6 to 10 and 11 to 18. *Marital status* was established on the basis of married and non-married only.

Socioeconomic Factors were estimated through three variables. These variables included

annual family income, the parents' employment status and the parents' level of education. For annual family income the respondent was asked to classify their total annual income as: less than \$25 000, between \$25 000 and \$50 000, between \$50 000 and \$70 000, and more than \$70 000. For the parents' employment status we asked each respondent whether or not they were employed and if their spouse was employed. Each question had a possible answer of "yes" or "no." From these responses we identified if none, one, or both parents were employed. The level of education was assessed for each respondent and then analyzed according to the respondent's status (mother or father).

Life Experience was measured through two variables: previous family experience with emergencies, and the dependent's supervisory situation. For previous emergency experiences, the respondents were asked if they or their partner had ever experienced a disaster and if they have been evacuated from their home. The dependent's supervisory situation was determined by asking whether or not the dependents were sometimes without supervision at home.

CONCLUSION

This study was about family emergency preparedness and the factors that influence its realization. This issue represents a promising alternative to organization centered community emergency planning because it would relieve part of the burden of planning for the population's basic needs in case of an emergency.

We expect that the analysis of the survey data will yield significant information about family emergency preparedness. The model proposed for this study made use of the conclusions of previous research. Findings of the present study should confirm existing knowledge and explore further factors that would influence family planning activities.

Disaster researchers, planners and emergency managers should build from such findings to develop realistic expectations and better interventions in regards to population involvement. Risk perceptions and other variables may provide interesting clues for the future.

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