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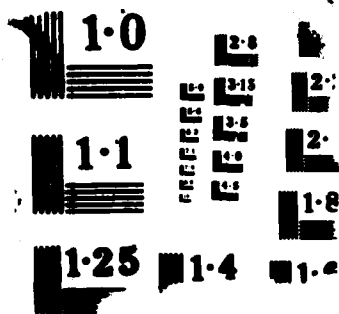
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FINAL REPORT

**REGIONAL AND DEMOGRAPHIC VARIATIONS IN PUBLIC PERCEPTIONS
RELATED TO EMERGENCY PREPAREDNESS**

BY

LORAND B. SZALAY, ANDRES INN, SHELLEY K. VILOV, AND JEAN B. STROHL

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The purpose of this research was to assist the Federal Emergency Management Agency in understanding the frames of reference that would form the basis for engaging the interest and active participation of the American public and especially volunteers in emergency preparedness and public protection. To this end the research offers new insights into how various segments of the public perceive certain emergencies and crises. The focus of attention is on public views and motivational dispositions that influence people's participation in and support of programs in the field of emergency preparedness. The findings in this report are based on the Associative Group Analysis (AGA) method which does not pose direct questions. Rather, people's views and belief systems are inferred from the distribution of hundreds of thousands of spontaneous free actions. New information and insights are gained on how to reach various segments of the public by taking their dominant views and values into systematic consideration. The information				
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presented here focuses not on issues like the percentage of people who approve of civil defense preparedness but rather on how civil defense preparedness is viewed by various groups.

This report demonstrates that people's perspectives vary depending on age, gender, geographic location, as well as attitudes. Groups with different demographic characteristics approach certain aspects of civil defense and emergency preparedness in quite different ways. This report suggests ways in which AGA-based insights can be used by FEMA management to encourage volunteers to work toward the multiple goals of civil defense and emergency management by emphasizing those aspects of emergency preparedness that agree with their motivations, perceptions, and predispositions. The findings of this report offer new insights in these deep human dispositions, including their effects on people's support to objectives and programs of management and their participation and involvement in implementation.

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**REGIONAL AND DEMOGRAPHIC VARIATIONS IN PUBLIC PERCEPTIONS
RELATED TO EMERGENCY PREPAREDNESS**

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Emergency Evacuation
F.E.M.A.
Emergency Management Officer

Civil Defense from Student and Adult Perspectives

Civil Defense
Crisis Relocation
Fall-out Shelter
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EXECUTIVE SUMMARY

CONCLUSIONS AND APPLICATIONS

This report contains new findings on public perceptions and attitudes related to civil defense and emergency management. The findings come from an in-depth study of public views and values conducted on population samples from the Eastern (N=200), Mid-Western (N=100) and Western (N=100) regions of the United States.

NEW INSIGHTS IN PUBLIC PERCEPTIONS

The purpose of the research was to assist the Federal Emergency Management Agency in understanding the frames of reference that would form the basis for engaging the interest and active participation of the American public and especially volunteers in emergency preparedness and public protection. To this end, this research offers new insights into how various segments of the public perceive certain emergencies and crises. The focus of attention is on public views and motivational dispositions that influence people's participation in and support of programs in the field of emergency preparedness.

The findings presented in this report are based on a method which does not pose direct questions. People's views and belief systems are inferred from the distribution of hundreds of thousands of spontaneous free reactions. Our investigations were organized to provide management with new information and insights on how to reach various segments of the public by taking their dominant views and values into systematic consideration.

The Associative Group Analysis (AGA) method used in this volume reconstructs belief systems along their dominant priorities and main parameters of organization. Consequently, the information presented here focuses not on issues like the percentage of people who approve of civil defense preparedness but rather on how civil defense preparedness is viewed by various groups.

HELPING MANAGEMENT TO REACH DIVERSE POPULATIONS

The insights offered in this volume allow management to understand the different perspectives and dispositions of various populations. This report focuses on the ways in which main segments of the population construe and approach civil defense and emergency preparedness. By providing a map of group perspectives on issues involved in emergency management, FEMA management can identify the kinds of information that are likely to influence these groups' views, reactions, and behaviors to problems related to emergency preparedness and civil defense. Such understanding allows management to develop programs and communications which can motivate the public toward constructive civil protection activities.

This executive summary briefly highlights the important dimensions of public perceptions regarding emergency management and civil defense preparedness. These perceptions are organized by examining the subgroups studied.

This report demonstrates that people's perspectives vary depending on age, gender, geographic location, as well as attitudes. Groups with different demographic characteristics approach certain aspects of civil defense and emergency preparedness in quite different ways.

This executive summary illustrates ways in which AGA-based insights can be used by FEMA management. An important aspect of the FEMA mission is to harness the efforts of volunteers toward the multiple goals of civil defense and emergency preparedness. This executive summary suggests some ways in which volunteers may be encouraged to work toward these goals by emphasizing those aspects of emergency preparedness that agree with their motivations, perceptions, and predispositions.

STUDENT AND ADULT PERSPECTIVES

The results demonstrate how perspectives vary depending on age and experience. Different perspectives and dispositions influence the way university students and adults construe and approach problems related to emergency preparedness and civil defense. Most agreement was found in their perceptions of natural disasters, probably because of the more common and tangible nature of these events, but also because they tend to be neutral with respect to political issues. In comparison, less agreement was found in perceptions of technological hazards and nuclear attack preparedness.

The students tended to emphasize danger, destruction, loss of life, suffering, and the extreme consequences of possible disasters and wars. They showed more awareness of danger signals and demonstrated a readiness to respond with quick, immediate action. Fitting with their preoccupation with dangers, university students have also shown more concern with fear and panic and with chaos. They are interested in the causes and sources of danger and in learning about preventive measures. They expect help, which may partially explain their positive attitudes toward outside agencies and trust in their assistance. Students tended to be positive and optimistic about government agencies and officials. They think of civil defense measures in the context of the military and the government and in terms of their own personal security. In regard to emergency preparedness they placed more weight on action, training, and practice. They look upon risks more as a gamble and as a matter of personal choice, weighing losses against gains and danger against excitement.

Adults look at risks as an inescapable part of life for which one must prepare (e.g., buying life insurance). They were consistently more preoccupied with planning and preparation. This is especially true in the area of emergency preparedness, where they emphasized the need for taking protective measures and providing help and assistance. They focused on specific human needs for food, water, shelter, and medical supplies. Compared to university students, adults were more concerned with protecting people, particularly families and children, and personal property. Adults tended to be more skeptical and critical about government action and bureaucracy. They worry about the cost and usefulness of civil defense measures.

These perceptual and motivational characteristics of students and adults have many implications for the management of emergency preparedness and civil defense programs. Among these implications are their relevance to volunteering. To promote student volunteering, their sensitivity to danger, their

concern with war, and their trust in government and other civic organizations like the Red Cross and the Coast Guard are important motivating factors that can be reinforced by proper information.

A more useful motivational context to promote the volunteering of adults would be to focus on previous emergencies and natural disasters. In such a context, the adults' focus on self-help might be reinforced. The more critical and skeptical attitudes of adults toward government may be overcome through communications which emphasize the need for large-scale cooperative efforts. The order of magnitude of the threats posed by natural disasters and war-related emergencies support arguments that individual efforts at self-help have little chance to provide the desired security and protection. The adults' strong concern for the protection of people, particularly families, women, and children, as well as property provides a natural opportunity for management to appeal to the dominant motivational dispositions in relation to volunteering in support of organized efforts.

MALE AND FEMALE PERSPECTIVES

Again, there was more agreement between males and females in their perceptions of specific disasters than of less tangible issues like emergency preparedness and civil defense. Intangible issues tend to elicit greater differentiation between men and women.

In the face of both natural and man-made disasters, women showed intense concern with danger, human suffering, pain, disease, and famine. They tended to think of the tragedies, troubles and human miseries as well as the destruction and loss of life. Consistent with their focus on dangers and harmful consequences, women also placed a great deal of emphasis on safety, protection, and security. Their thoughts centered around home and people, and women thought more of receiving assistance, for example, from the Red Cross and other organizations specialized in providing help.

The women expressed ambivalence about taking risks in contrast to the men, who appear more inclined to accept risks and hazards as a natural part of life, reflecting the view that there is no success without certain risks. The women admired the bravery of those who are willing to take risks. Specifically, they were impressed by the motivation, bravery, and patriotism of civil defense staff and volunteers. Women, more than men, tended to connect civil defense with conventional military operations in the Army and other military and paramilitary organizations and to look to the government for protection. Compared to men, the women gave more affect-laden responses and expressed greater concern about the panic and confusion evoked when disaster strikes. Their responses tended to be reactive rather than preventive -- e.g., run, flee, escape, with a sense of immediacy and quickness.

The men consistently emphasized planning and preparation, education and training, actively providing help and assistance where needed. They focused on man-made problems rather than natural disasters: e.g., nuclear war, technological hazards, and chemical contamination. In connection with natural disasters and other emergencies men were interested in the particular preventive and protective measures. Compared to the women, the men tended to be much more preoccupied with knowing the specifics involved and also the technical quality of the measures.

Men tended to be more critical and skeptical in their views, particularly regarding the role of the government, although they did not assign as much importance to the government as did the women. The men expressed doubts about the effectiveness and practicality of specific civil defense measures. They were also more concerned about the expense and waste of money. A sizable group of both men and women indicated that they had never heard of FEMA or of emergency management officers.

What do these trends reveal about men and women in connection with volunteering? Males focus on providing effective help and assistance, and tend to be critical of civil defense measures and governmental administration. This focus suggests the desirability of stressing practical ways for organizing volunteers at the local level. An appealing objective would be to emphasize the manner in which individuals can interface with and complement government programs effectively. Emergency management programs that take these dispositions into account can enlist the support of men by emphasizing the order of magnitude of the threat posed by natural or nuclear disasters and the limited chances of the individual to survive unless people are organized and integrated within the framework of preparedness programs. This appeal to the common sense of men can be further reinforced by connecting with their natural concern for the protection of women, children, and families. It is of critical importance that male volunteers are assured of the optimal possible care and protection of their families.

Volunteering by women may be promoted and supported by relating to their natural dispositions to rely on and trust governmental and other large-scale organizational efforts as useful sources of help and protection, and to their expectations of being with others who are being protected. The female preoccupation with dangers, threats, and negative consequences, their stronger ambivalence, and their stronger needs for belonging and affiliation offer good opportunities to make cogent appeals to encourage volunteering among women. To strengthen these appeals, the communications and programs presented should focus on tasks and settings that naturally fit these dispositions; for example, shelter management roles and other roles associated with reception and care, shelter and lodging.

PUBLIC PERCEPTIONS AMONG PEOPLE WITH POSITIVE AND NEGATIVE ATTITUDES

Comparisons were made of perceptions by groups with positive and negative attitudes toward the following concepts: risk, FEMA, Emergency Management Officer, Nuclear Deterrence, Nuclear War Survival, Strategic Defense Initiative (SDI), Star Wars Program, Laser Beam Missile Defense, and High Tech Nuclear Defense. People with positive attitudes on selected issues tend to differ in their dominant views and perspectives from people with negative attitudes on those issues. These perspectives involve dispositions to look at issues in particular ways, ways which influence what people may choose and do.

In comparing the positive and negative attitudinal groups' perceptions of representative organizations (FEMA) and roles (Emergency Management Officers, EMOs), it was found that the positive group had confidence in their ability to perform in the event of both natural disasters and war. The negative group, which focused more on civil defense, considered this program and its personnel wasteful and useless and were particularly concerned about red tape and bureaucracy within the government. People with strong negative attitudes were

skeptical about the EMO's function and ability to provide guidance and protection. In contrast, providing guidance and protection were precisely the functions which the positive group found particularly valuable as the main functions of emergency management.

It may be that the perceptual differences observed between the positive and negative groups tie in with deeper human dispositions. For example, some people are predisposed to look at the darker alternatives of life involving dangers and threats, while others are more motivated to search for positive solutions.

On highly affect-laden and complex nuclear issues, such as deterrence and survival, the positive and the negative groups showed sharply contrasting perceptual trends and perspectives. The positive group tended to think of peace and defense, and to trust government. The negative group, on the other hand, preoccupied with the dangers of war and destruction, was found to view the government's involvement as useless and potentially harmful.

The promotion of volunteering requires different approaches when addressing people with positive attitudes toward emergency management and civil defense as compared to addressing people with predominantly negative attitudes. The positive group showed strong concern with protection and survival; they felt that preparedness and civil defense can be of help and they expected the help to come from the government. This group does not need to be convinced that preparedness is desirable. Rather they need information that can demonstrate that in reality the government's financial support to the field of emergency preparedness is low and that the success of any efforts at preparedness therefore depends on public participation and volunteering. Here it is important to elaborate on the need for various types of volunteering tasks and the important personal contributions that can be made to the nation. Relevant topics which such audience-adapted communications can best emphasize to reach males and females or adults and students are shown in the corresponding sections of the report.

In approaching groups with negative attitudes, it is important to recognize that their opposition does not stem from a lack of interest in protection and security. Rather, the negative attitudes result from their skepticism or doubts that protection and security can be achieved. This skepticism and doubt are rooted in their subjective understanding of the overall situation rather than in their knowledge or familiarity with the objective quality of specific measures. In view of their opposition primarily to civil defense it appears desirable to rely on communications which emphasize the broad concept of emergency management. In the same fashion, communications might benefit from a general shift in emphasis from deterrence to humanitarian aspects of protecting lives and property.

PERCEPTIONS IN THE EASTERN AND WESTERN UNITED STATES

The differences observed between the Eastern and Western regional groups were modest but consistent. The variations appear to be more the result of differences in situation or experience rather than differences related to deeper processes of socialization and upbringing. Since the Eastern respondents came primarily from Washington, D.C. and surrounding urban centers

on the East Coast, the findings may apply more narrowly to this population than to the Eastern United States in general.

The respondents from the East were much more aware of the federal government, attributed more importance to it, and were more critical and skeptical of its role. They complained about the bureaucracy and spoke somewhat more of dangers, fear and panic. On the positive side, the Eastern group placed more emphasis than did the Western group on planning, organization, management, and leadership.

The Western group tended to view emergency and civil defense measures more positively as sources of help and useful assistance. They expressed less skepticism, more trust and optimism. The Western group spoke more frequently of resources and supplies: food, water, medical assistance, and first-aid. In general, they also thought more about people, families, and children. They placed greater emphasis on specific disasters such as floods, tornados, or earthquakes, compared to the people in the East who included and emphasized war-related disasters.

Many of the differences between the East and West groups can be traced to a single factor: the relationship each group has with the government. This factor poses different opportunities and requirements for approaching volunteering. The East group's heavier reliance on government and their stronger mix of positive and negative feelings about the role of the government naturally have important implications for volunteering. Since the skepticism and ambivalence are intensive and deep but selective, it is desirable to provide for local initiative. It would also be helpful to articulate how local interests and decision making can be coordinated and combined with national plans and measures of emergency preparedness. To encounter the concerns expressed about bureaucratic inefficiency, it is desirable to show that local interests will be recognized and effectively pursued. Local interests can be encouraged by giving volunteers some leeway and administrative autonomy to pursue local initiatives.

In the case of the Western group with its more positive attitudes but lower familiarity with the government role, volunteering in the field of emergency preparedness and civil defense appears to be more compatible with and naturally supported by the local frame of reference. This support can be effectively reinforced by introducing clear objectives and appropriate tasks which provide the right opportunities for participation.

IMPLICATIONS OF THE FINDINGS FOR EMERGENCY MANAGEMENT

The above findings clearly show how people from different segments of our society and from different demographic backgrounds---males and females, young and old---view issues and programs relevant to civil defense and emergency management from different perspectives and with differing motivational priorities.

Differences in perceptions and motivations are not accidental but follow from the background, experiences and frames of reference of these various sub-populations. Familiarity with these background variables is certainly helpful but it is not enough in itself to anticipate relevant human dispositions. The reason is that these dispositions have a deep psychological foundation rooted

in processes of socialization and subjective representations which operate below people's awareness. The findings of this report offer new insights in these deep human dispositions, including their effects on people's support to objectives and programs of management and their participation and involvement in implementation. Their relevance to emergency management rather naturally follows from the very nature of this new information. We have used volunteering as an example to illustrate insights relevant to emergency management.

Volunteering depends a great deal on people's motivations. People do not volunteer unless they can clearly identify themselves with a particular role or cause. To promote volunteering it is important to take people's views and values into consideration. This is why efforts to promote volunteering call for the use of a differentiated approach, which takes the dominant views and values of different groups of people into careful consideration. Our research results showing the different views and attitudes of demographically different groups in regard to emergency management and civil defense not only demonstrate the need for a differentiated approach, but they also show how to take these differences into consideration.

In market research this problem is called market segmentation. The notion stems from the recognition that in order to reach a particular market, communications and marketing have to address the differential needs of various subpopulations or segments of the public. This volume contains extensive information regarding relevant subgroup characteristics and the communication opportunities each offers.

Volunteering is naturally only one of the many important areas of application where management, working in either the framework of integrated emergency-preparedness, or specific concerns such as earthquakes or attack preparedness, can benefit from these new insights. The human resources to be tapped here are particularly rich, the issues at stake are high, and an active public involvement is essential.

The volunteering examples illustrate how the findings and insights gained into perceptual and motivational dispositions of various segments of the American populations can be of practical use to management sensitive to the importance of invisible but powerful human dispositions.

To support emergency management interests the present investigations explored ways to develop new and useful information by combining the depth of the perceptual/motivational assessment with the nationwide generalizations of the opinion survey approach. The strategy of combining these two main approaches resulting from these investigations relies on three main categories of findings.

The application of the distance measures shows that from the variables examined---age, sex, region, and attitudes---differing attitudes were responsible for the greatest differences in perceptual and motivational perspectives. In other words, the differences between males and females or between students and adults were more limited than the differences between people with positive attitudes and people with negative attitudes on particular issues.

Second, a more detailed analysis of the views of people with positive attitudes and people with negative attitudes on such specific issues as civil

defense or emergency preparedness revealed articulate differences in perceptions and motivations. These dominant trends of perceptions and motivations reflected intrinsic, coherent dispositions to view issues and programs from internally consistent perspectives.

Third, because of its nature this new information has a close, natural relevance to the interest of management in reaching various groups of people effectively, to assure their maximum cooperation along major management objectives as they vary from program to program. The insights go beyond the question of whether people are for or against specific programs such as emergency evacuation and show how people are differently predisposed to understand and construe such programs, what are their main expectations or anxieties, how much protection they expect, what strengths and weaknesses they attribute to these programs, and in what ways the images of such programs could be improved.

Management and psychological assessment in reaching increasingly higher levels of sophistication promote the growing realization that successful management requires taking people's psychological dispositions into consideration.

To provide the information necessary to support this advanced management task through appropriate data on human dispositions, the present investigations suggest two main developments.

First, it would be useful to make a clear distinction between the information needs which have been promoted traditionally along the interests of the democratic body politic on the one hand and the interests of management on the other. This distinction is particularly consequential with regard to the categories and uses of information on the human element. Democratic politics, interested in following public sentiments, their trends and fluctuations over time, has developed a highly sophisticated methodology of opinion survey research and representative sampling. As we said in the concluding chapter on methodology, successful emergency management does not depend so much on knowing how many people support or oppose a particular program, like emergency evacuation. It is of greater importance to find ways to reach all the people of all background and attitudes, to help them understand the programs, and to assure that they participate along a broad spectrum of alternatives ranging from volunteering their services to following instructions or responding constructively to emergency information. This requires naturally a dramatic increase in the capability of management to encourage the people to act in ways that realize critical objectives for population protection.

Beyond its heavier emphasis on human dispositions, the present study suggests practical ways to obtain the desired information. There are analytic methods which can produce the necessary perceptual and motivational insights, and by combining methods of extensive attitude research and methods of in-depth perceptual and motivational assessment it is possible to benefit from the advantages of both research strategies. The step planned for combining the results of the survey questionnaire and the AGA based perceptual/motivational assessment could not be performed due to conditions beyond our control. Nevertheless, our findings on the perceptual/motivational differences of groups with contrasting attitudes provide sufficient evidence to suggest that the use of such a combined approach is not only desirable but also feasible.

I. INTRODUCTION

PREPAREDNESS HELPED THROUGH NEW INSIGHTS

This report contains new findings on public perceptions and attitudes related to civil defense and emergency management. The findings come from an in-depth study of public views and values conducted on population samples from the Eastern (n=200), Mid-Western (n=100) and Western (n=100) regions of the United States.

The purpose of the research was to assist the Federal Emergency Management Agency, its professional staff as well as its volunteers in engaging the interest and active participation of the American public in emergency preparedness and public protection.

The findings offer new insights about how various segments of the public tend to perceive certain emergencies and crises. The focus of attention is on public views and motivational dispositions that influence people's participation in and support of programs in the field of emergency preparedness. The importance of these new insights is underscored by recent developments such as the growing need for public involvement and the information needs dictated by the task of integrated emergency management.

THE GROWING NEED FOR PUBLIC INVOLVEMENT

Civil Defense has been frequently described as the "people's program," a program in which voluntary participation and active involvement of the public is more natural and more important than in any other government program.

President Reagan has spoken of the unique capability of the American people to rise to the occasion, to unite and undertake the necessary protective measures in the face of emergencies or impending disasters. There are numerous historic examples of how Americans have united to overcome crises and to pull out of dangerous situations through joint efforts. Although Americans have a tradition of rallying in the face of common threat, never before has the American public had to face dangers of such global magnitude and novelty as posed presently by thermonuclear weapons. .

Contemporary emergency preparedness and civil defense programs aim to protect the people from both natural disasters and the dangers brought on us by nuclear weapons. These unconventional dangers call for rather unconventional preparedness, both technological and psychological.

INTEGRATED EMERGENCY PREPAREDNESS

In an age of progressive fragmentation and compartmentalization, the Federal Emergency Management Agency is moving toward an integration of its main missions. This move is promoted by the realization that the various natural disasters, technological accidents, and the threat posed by modern warfare have from the angle of public protection similar implications. The task of protecting the public calls for a common core of carefully planned and coordinated measures. These are being progressively developed in the framework of an integrated approach to emergency preparedness.

It will take some time for the organizational, financial, and other material advantages resulting from such an integrated approach to become fully apparent. Less apparent but perhaps even more important are the advantages resulting from the use of the integrated approach in the human dimension.

An integrated approach opens new opportunities to reach the public, to communicate the central objectives of the program, and to activate public support. While the majority of the American public is positive about civil defense, the public is also poorly informed and frequently confused about details. Under these conditions, an integrated system of public protection offers several important advantages to management for the effective use of human resources.

As our previous results have shown (Szalay & Vilov, 1985), the public views emergency preparedness and civil defense as important tasks of national significance which require leadership and resource allocation from the government. Particularly the women and the young expect that the government will take care of certain basic tasks of protection. The adult male population's greater inclination to undertake certain measures on its own is in line with the traditional male role as protector of family and home and is also a reflection of their skepticism about the government bureaucracy. These trends do not affect the basic belief that civil defense is a primary responsibility of the government.

A growing reliance on integrated emergency management can help to overcome this skepticism since it makes sense and is increasingly obvious that only by integrating the individual efforts into a system of protection can viable solutions be found in view of the unconventional proportions of the threat.

The need for an integrated approach gains additional support from our findings that the views and attitudes on specific protective measures, from warning systems to shelters, depend relatively little on the objective technical qualities of the specific measure. What matters more is people's broad frame of reference, their general view of the situation, their subjective understanding of how much their personal security depends on emergency preparedness. This tendency to evaluate specific measures based on a broader view of threat and protection is important to keep in mind. It suggests that an approach which presents an integrated plan and shows specific activities and requirements in close relationship to personal security and protection is likely to be better received by the public than a narrow technically focused approach that ignores the human concerns and addresses each technical problem separately.

Several independent opinion surveys, such as those performed by Nehnevajsa at the University of Pittsburgh, by Roper, Gallup, Harris, and Yankelovich, as well as the in-depth studies of public perceptions by our own institute support the conclusion that the overwhelming majority of the U.S. population (up to 75 percent) supports civil defense programs. Also, records show that all administrations from Kennedy to Reagan were in strong support of such programs. Leading experts convened by the Carter administration agreed that active civil defense measures could save tens of millions of people.

Opinion data, including results presented in our previous report (Szalay & Vilov, 1985) show that the large majority of the population is critical of the concept of Mutually Assured Destruction (MAD), which held sway through the 1970s and which builds security on keeping hundreds of millions of civilians hostage.

Nehnevajsa's General Public Surveys, which were repeated rather regularly from 1961 to 1978, also show that the large majority of the American people have thought that the government spends approximately ten times more on civil defense than it actually does. The public also assumes that our civil defense needs are being taken care of by our government. As the findings indicate, there is a wide gap between the beliefs and expectations of the public and the actual scope of budgets and programs.

The many reasons for strengthening our emergency preparedness and civil defense capabilities have been summarized in a recent study by Jiri Nehnevajsa and his associates. They include the advanced Soviet civil defense capabilities as well as the various psychological and strategic considerations which call for an active civil defense posture.

President Reagan's new strategic doctrine, identified as the "Strategic Defense Initiative," has been characterized as an effort to move away from the escalating spiral of deterrence and to undertake a gradual shift toward a power balance based on defense. The fundamental rationale of this approach is to make for a more stable and secure world by improving our system of protection rather than by building stronger and stronger forces of deterrence.

This historic effort to move the competition into the domain of defense, once fully accepted, could lead to an updating and strengthening of our civil defense and emergency preparedness capabilities.

Since a high tech based strategic defense system cannot be made foolproof, civil defense gains here a role of critical importance to reduce the chances of a potential aggressor to penetrate our defenses and inflict damage.

The Strategic Defense Initiative would logically lead to a heavier reliance on the various tasks of civil defense. In turn, this process is likely to bring civil defense needs more into the foreground of public interest.

Indeed, from the angle of the psychological managerial requirements of success, the use of an integrated approach is of utmost importance. The participation by the public in various measures of preparedness depends, for the reasons previously discussed, on the effectiveness of emergency management to present the public with information and programs which take the public's perceived views and dominant security concerns into careful consideration. This requires more than offering accurate technical details about each specific technical measure of preparedness. For example, whether instructions on emergency evacuation will be followed or whether people will volunteer their services is not so much a question of the technical program characteristics or details. They depend more on how the people are generally predisposed to perceive dangers and to cope with emergencies. Success hinges largely on effective emergency management in addressing the public in terms of the dominant perceptual and motivational dispositions which are likely to lead to the desired actions. The present investigations were organized to help management relate preparedness objectives and programs to the dominant views and values of the public in general or its various important subpopulations.

NEW INFORMATION FOR INTEGRATED MANAGEMENT

Since specific preparedness programs frequently draw on different resources and technical expertise, from a managerial angle it is tempting to construe emergency preparedness as a series of independent, technical tasks. From an administrative angle preparedness can appear to be an aggregate of separate activities like developing warning systems, building dams or shelters, or storing food and medical supplies. Yet certain human and organizational prerequisites of success call for a more systemic and integrated approach. As described by Rogers and Nehnevajsa in their recent report, "Behavior and Attitudes under Crisis Conditions," the human, behavioral dimensions and advantages of an integrated approach to emergency preparedness are many and substantive. The framework provides for a meaningful integration of various key concepts of the social/behavioral sciences. It helps to show the relationship between opinions and behavior along dimensions relevant to management. Most importantly, it offers a systematic base for integrating the technical with the human dimensions of emergency preparedness.

This new management interest in human, psychological dispositions is both wider and deeper than the traditional. It is also less passive and case particularistic and more dynamically task oriented. While the traditional management approach rarely goes beyond assessing what is popular and what is not, the concept of integrated management leads to a deeper interest in public perceptions and motivations. Integrated management seeks deeper insights into human dispositions in order to develop effective and successful programs and policies which take these dominant dispositions into systematic consideration. Rather than asking whether people agree or disagree about a particular measure like emergency evacuation, integrated emergency management interested in reaching all people effectively strives toward a broader understanding.

Along its main task and objective to elicit maximum cooperation and to provide security and protection to all, integrated preparedness management

faces a host of relevant questions such as how to communicate the nature and implications of emergency and the need to participate in preparedness measures fully and effectively, or how to promote volunteering of the necessary number of citizens with the right qualifications. Beyond assessing the ratio of those who are for, against, or neutral about emergency evacuation, it is important to identify the main perceptual and motivational dispositions working against accurate perception, support and participation, and to identify those motivating forces which can be used to promote active participation to save as many lives as possible.

As will be explained in the following discussion of the approach used in these investigations, the method was chosen because of its potential to produce new insights along these management interests which gain special importance in the context of integrated emergency preparedness.

NEW INFORMATION ON PUBLIC PERCEPTIONS AND MOTIVATIONS

To promote public involvement, requires careful consideration of the dominant dispositions of the public, their characteristic views and values.

While opinion polls offer valuable information about people's conscious judgments and choices, our research is centered on dominant trends of public perceptions and motivations recognized as important in shaping human behavior.

Perceptual and motivational dispositions are well known for operating predominantly below people's conscious awareness and for being elusive to the more direct structured methods of assessment. Our unstructured, open-ended research method, called the Associative Group Analysis (AGA), offers an advanced analytic tool for charting such elusive perceptual and motivational dispositions. These insights have potential utility for FEMA to reach the general public as well as particular populations ranging from potential volunteers to particular groups of people affected differentially in various emergency situations.

The investigations reported here were introduced by an initial phase of instrument development. The information accumulated in the present phase of our research had the character of a pilot study seeking information both on public perceptions and on the potential of the method to produce data relevant to various emergency management applications. The applications under consideration include three main contexts.

Since the main source of emergency related management information has been traditionally attitude research, the present investigations were designed to examine how our findings on public perceptions and motivations may be used in combination with the information produced by the more structured surveys. Attitude research surveys show the degree of public support given to selected policy issues like civil defense on a broad, nationwide foundation. Data show, for example, the percentage of the total population in support of or opposed to civil defense. Our perceptual/motivational information can achieve additional depth of understanding concerning how various groups of people actually view and understand policy issues like civil defense or emergency preparedness. The public perception data show how those in support and those against civil defense differ in their dominant views. How do males and

females, the young and old, view civil defense? What are the dominant dimensions of their differences and similarities? What are the practical implications of these differences from the angle of their behavioral dispositions?

A second main application is in program planning and administration. As in any field of specialization the language of specialists and administrators is frequently different from the language of the public. Professional terminology is frequently incomprehensible to the public which is used to thinking more in the vernacular. AGA based information can show, for instance, what are the differences between the officials' and the public's understanding of such technical terms as emergency evacuation and crisis relocation. Are these and related terms differently understood by the public? What are the most salient similarities and differences?

A third broad area of application is in the field of public information, education, and training. Some "hard-nosed pragmatists" and managers do believe that words do not matter. In reality, the selection of meaningful themes which carry the right idea, free of distorting connotations and semantic pitfalls, is of special importance in the domain of emergency preparedness where people can easily get confused by the complexity and interdependence of issues. From a practical angle of public understanding and appeal it makes a difference what a program involving a high-tech defense system is labelled. "Star Wars," for example, was found to convey ideas of utopian science fiction, unrealistic ambitions, belligerence, using technology to support dangerous ventures and aggression. In contrast a properly selected label may help the public to understand that advanced U.S. microtechnology is being used to develop a system of protection that is essentially defensive. Particularly since the system is in a preliminary developmental stage, it can make a critical difference whether the public is helped by the use of simple and effective labeling to see that the system under consideration aims to assure security and mutual protection rather than destruction.

The existential importance of issues in the whole realm of emergency preparedness gives a unique potential for successful programs, granted that people's subjective understanding is recognized and taken into careful and systematic consideration by those responsible for the planning, management and implementation. The findings from our in-depth analysis offers useful insights toward this end.

II. MAIN RESEARCH OBJECTIVES

The purpose of our investigations is to produce new information on human dispositions relevant to emergency preparedness and civil defense. The focus is on perceptual and motivational dispositions which influence what people are likely to do and what line of action they are likely to take.

The investigations had three main objectives:

1. To assess how the general public and select populations perceive and understand civil defense, emergency preparedness, and other issues relevant to FEMA's mission.
2. To assist in the interpretation of the findings of the "General Public Survey" conducted on a national sample to measure civil defense related opinions.
3. To produce timely information useful to FEMA's mission in public information and education, e.g., putting FEMA's objectives and messages into words that will be more accurately understood and bear closely on those public views and values which are likely to elicit public participation.

Our investigations have pursued these objectives through an in-depth assessment of public perceptions and motivations.

III. THE APPROACH

THE ANALYTIC METHOD: ASSOCIATIVE GROUP ANALYSIS (AGA)

The analytic technique used in this research to obtain perceptual information on the various population samples is called Associative Group Analysis (AGA). Following a brief description of the AGA method, some of the main characteristics which differentiate it from the more structured research methods will be discussed.

The Associative Group Analysis (AGA) method is a nondirective analytic technique. It was developed for the empirical study of dominant perceptions and motivations of groups of different social and cultural backgrounds. It relies on the analysis of thousands of spontaneous associations produced by medium sized samples (N=100) to systematically selected stimulus themes.* The extensive response distributions are used to reconstruct the subjective meanings of themes, the subjective representation of issues as characteristic of people of a given social or cultural background.

As leading experts agree, images and meanings are "multicomponential" (Osgood, 1957). In simple language we may say that the subjective meaning of "drug," for instance, goes beyond its referent (e.g., aspirin, medicine). It can include other important components such as memories of taste, smell, allergies, hope for cure, fear of side effects, and other subjective reactions which vary from person to person and from group to group. The subjective meaning of "drug" will be distinctly different for a Christian Scientist and a drug addict based on their different experiences and frames of reference.

The numerous high frequency reactions elicited to a particular theme or issue reveal important mosaic elements of the group's subjective meaning. In Table 1 the distribution of responses from students and adults to Emergency Preparedness shows several important ways in which these groups agree as well as differ in their subjective views or meanings.

* This use of word associations follows the theoretical orientation initiated by the pioneering work of Noble (1952) and Deese (1962). The theoretical rationale and several past applications of AGA are described in the monograph Subjective Meaning and Culture (Szalay & Deese, 1978). The procedure of data collection is described in Appendix II, (p. 1-2). The publications listed in this appendix describe the various investigations conducted in the development, testing, and application of this method.

Table 1
The Most Frequent Associations to EMERGENCY PREPAREDNESS

Students		Adults	
Response	Score	Response	Score
ready	165	food	267
shelter	120	shelter	206
food	115	planning	135
help,ful	81	water	130
necessary	74	war	86
safe,ty	71	ready	69
training	62	need,ed	53
good	57	help,ful	52
ambulance	56	necessary	51
first-aid	56	government	48
defense	55	safe,ty	47
hospital	54	civil defense	46
war	51	supply,ies	46
Red Cross	50	clothes,ing	44
readiness	50	people	44
Total Adjusted Scores 2200		2410	

Already in their first, highest scoring responses, "ready" and "food," the students and adults differ substantively in the subjective meaning of Emergency Preparedness. Many of the later responses show considerable differences as well. While it is difficult to identify trends from the comparison of long lists, even a quick review of the responses can reveal, for instance, that the students emphasize a state of readiness while the adults are more preoccupied with specifics like food and water and supplies.

Whether we analyze responses elicited by "Emergency Preparedness" or the "United States" or "Civil Defense," the distributions of responses obtained provide mosaic elements showing how people perceive and evaluate these subjects. Since we are dealing with hundreds and in some cases thousands of reactions, to arrive at a more concise summary of the main components of perceptions and evaluations a content analytic procedure is used with the assistance of computers.

Identification of Main Perceptual Components

A content analysis based on the categorization of all responses allows for the identification of salient perceptual and attitudinal trends more systematically and conclusively. This procedure, including reliability data, is discussed briefly in Appendix II (pp. 5-8).

Based on the content analysis clusters of responses are identified which reflect similar concerns on the part of the respondents. In this analysis a

summation of the scores of these responses is an indication of the salience of the particular main perceptual dimensions identified. In the context of Emergency Preparedness, for instance, there is a group of responses dealing with shelter, food and other supplies needed in the case of emergencies. The higher score of the adult responses indicates that adults pay substantially more attention to these needs. Another cluster of responses given predominantly by the students stresses readiness and preparedness compared to a stronger focus by adults on planning and training. Thus, the data suggest that in their views of emergency preparedness students tend to emphasize readiness while adults are preoccupied with planning ahead to ensure that there are adequate supplies to meet human needs.

In general the various response clusters reveal important parameters of the groups' perceptions and evaluations. In the present case ten clusters were used to describe how members of the two groups perceive and evaluate Emergency Preparedness. The subjective meaning of Emergency Preparedness is summarized in Table 2. The percentages show the relative salience of these major components for the groups compared.

Table 2
EMERGENCY PREPAREDNESS
PERCEPTIONS AND EVALUATIONS

Main Components	Percentage of Total Score	
	Student	Adult
READY, ALERT, AWARENESS	16	6
GOOD, NECESSARY, HELP	16	8
PLANNING, TRAINING	10	15
SHELTER, FOOD, SAFETY	23	37
DISASTER, BOMBS, WAR	7	9
GOVERNMENT, MILITARY	11	9
HOSPITALS, FIRST-AID	13	7
WARNINGS, MEDIA	2	5
COSTLY, USELESS	2	3
MISCELLANEOUS	1	1
Total Adjusted Scores	2200	2410

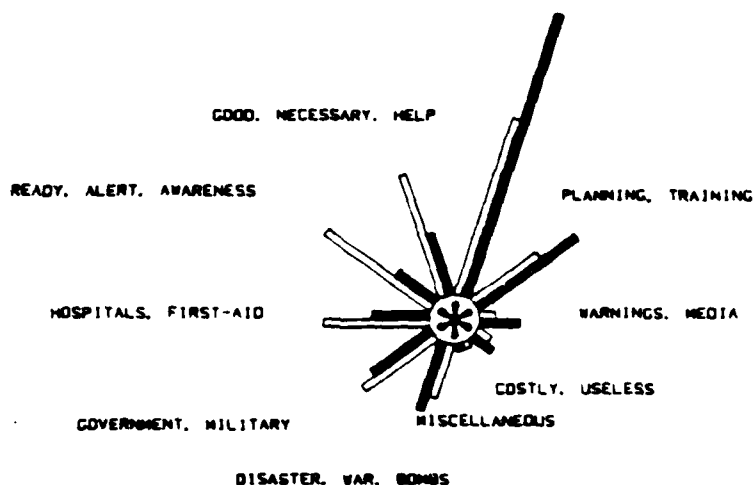
Another way to convey the numerical results shown in the above table is to use a graphical presentation called a "semantograph." The semantograph shows the main perceptual and evaluative components of the groups' subjective meanings in comparative visual presentation. This presentation helps to identify the main meaning components, including their differences and similarities characteristic of the groups compared.

EMERGENCY PREPAREDNESS

PERCEPTIONS AND EVALUATIONS

□ - BY STUDENTS ■ - BY ADULTS

SHELTER, FOOD, SAFETY



As repeated studies have shown, each response in the shared part of the response distributions is an element of the broader mosaic picture or shared meaning. The score accumulated by a particular response reflects the relative salience or importance of this mosaic element as a part of the global picture or meaning. Clusters of related responses reveal main perceptual and evaluative components of the groups' perceptual/semantic representation of the theme or timely issue.

The emerging picture offers a proportionate representation of the groups' subjective meaning or reality construction. What is salient in the response distribution is dominant in people's minds. And just as importantly, what is not included (e.g., responses not shared by at least two respondents out of a hundred) we can be sure has no importance for the members of the group in the context of that particular theme.

Rather than judgments guided by logical considerations, AGA aims to reconstruct what is salient in people's minds, what looms large, what is important in their subjective views, in their subjective representations of

reality. Since the rationale of this approach is different from most structured survey methods, the reader interested in relevant procedural details is advised to read Appendix II.

Dominance or Subjective Importance

Based on the relative number of associations, the "dominance score" shows the subjective importance of the themes and timely issues studied. The dominance score takes advantage of the well established potential of word associations (Noble, 1952) to reveal how meaningful or subjectively important a theme is to a particular group by the number of responses produced within a certain time (e.g., one minute). As previous studies have shown, the number of reactions is a valid measure of the importance of a particular theme to a particular group. Calculation of the dominance score is discussed in Appendix II (pp. 9-10).

Affinity or Subjective Organization

As a result of a third analytic procedure, affinity indexes show how issues like "Emergency Preparedness" and "Civil Defense" are related in people's minds. To some they may be closely interrelated subjects, to others emergency preparedness may have little to do with civil defense. As illustrated in Appendix II, matrices of this index can be used for mapping the subjective organization of beliefs, or their subjective representation of reality (pp. 14-16).

Coefficient of Intergroup Similarity

This measure makes it possible to gauge the similarity or distance between two systems of subjective representation based on the distribution of hundreds of thousands of free associations elicited from groups (e.g., Anglo and Hispanic Americans, males and females). It offers a measure of how people of different backgrounds and experiences agree or differ in their views on single issues as well as on large numbers of issues or dominant themes. To support valid generalizations, the themes used in this assessment are systematically chosen to be representative of their belief system or frame of reference. The calculation of this measure is described in Appendix II (pp. 10-13). The reliability and validity of these diverse measures as well as some of the common problems are also addressed in Appendix II (pp. 18-19).

CHARTING THE MAIN PARAMETERS OF SYSTEMS OF SUBJECTIVE REPRESENTATION

By using the above measures, the Associative Group Analysis approach provides information along three dimensions essential to the reconstruction of people's subjective representation of reality. The utility of this information has been extensively tested, particularly in the context of improving the effectiveness of communication.

What Is Important

It needs little documentation that the attention a particular issue or theme receives will depend essentially on the communicator's ability to relate to the main interests and expectations of his audience. In other words, it is important to know what has high priority and subjective importance to other people. The themes having high subjective importance to a particular group can be identified for further in-depth analysis by an established theme selection procedure described in Current Anthropology (Szalay & Maday, 1973). The dominance data reflect a group's familiarity and level of concern with selected topics on an inferential basis; they provide insights into subjective priorities which the group itself might not estimate correctly if directly questioned. Based on the more structured survey methods it is generally difficult to know whether a question addresses a truly dominant topic or one which is essentially insignificant to the respondent.

How Is It Understood

A second key to effective communication is our ability to relate to the dominant concerns of others in a way which makes good sense to them. As illustrated by the example on Emergency Preparedness (Table 2), subjective meanings vary. Familiarity with people's subjective meanings enhances our ability to adapt to those meanings. Information on selected key communication themes will help us to recognize the important ways in which people's subjective meanings differ. For example, components which show higher salience were found to receive greater attention by people and exert more influence on their behavior. Earlier studies (Szalay, Lysne, & Bryson, 1972) have shown that associative data reflecting salient cultural perceptions and dispositions of a particular group can be used to produce effective and meaningful communications. Again, in structured inquiries it is difficult to account for such differences. For example, to one respondent socialism may mean a socialist/Communist type of system, while to another it may refer to the type of system Sweden has.

How Is It Integrated Into People's Frame of Reference

The data presented in the following reveal broad general characteristics of the groups' frames of reference. These characteristics emerge from consistent trends observed across themes. The consistency observed in the salience of certain perceptual and attitudinal components shows that socially shared subjective meanings are not discrete, independent entities. They are mosaic elements of a system of representation influenced by the main perspectives of a particular group and influenced by their shared experiences, their frame of reference.

Perceptual and motivational dispositions which differentiate students and adults show, for instance, considerable consistency across the themes dealing with emergency preparedness. These dispositions influence how events and life experiences are organized and how future situations are approached. Once these perspectives have evolved and become dominant in shaping people's subjective view of the world, they exert continuous influence on what people see and do without their conscious awareness.

Compared to explicitly stated verbal opinions elicited through opinion surveys, the focus of the AGA based assessment is on public perceptions which involve deeply seated dispositions of which people are frequently unaware.

DATA COLLECTION

The first part of our previous study was devoted primarily to instrument development. Furthermore, it served to clarify questions concerning the use of the AGA based unstructured method in combination with the public survey developed and administered over the last 20 years by Nehnevajsa and his associates.

The following results are based on research conducted with this instrument testing four hundred respondents drawn from three main geographic areas of the United States. The samples were formed from an equal number of students and adults and of males and females in order to examine the influences of three main variables: (1) sex, (2) age, and (3) attitudinal dispositions toward civil defense and emergency management.

Selection of Respondents

The results presented in this report come from 400 respondents who volunteered to participate in the word association task and in two additional short tasks. Respondents of diverse backgrounds and occupations were contacted through church groups, PTA groups, and college student associations. The age of the participants ranged from eighteen to ninety and included an almost equal number of males and females. They were tested in three locations:

1. One hundred students and one hundred adults in the Washington, D.C. metropolitan area;
2. fifty students and fifty adults in Cedar Falls, Iowa; and
3. fifty students and fifty adults in Ellenburg, Washington.

The participation required between two and three hours, and the volunteers were paid \$3.50/hour as compensation for their time. In most instances, the financial compensation was paid as a contribution to support a charity or social objective of the organization.

The Theme Selection

The effectiveness of the Associative Group Analysis method in its broad objective to reconstruct people's belief systems depends to a large extent on the proper selection of stimulus themes. The general principles may be summarized as follows:

1. To map all the relevant domains of the belief system, each important domain should be examined by analyzing several key themes representative of that domain.

2. To obtain optimal insights it is desirable to use themes, which are particularly dominant in the representation of a particular domain.

3. Since groups frequently differ in those themes which are in their mind most representative of a particular domain, it is desirable to take the priorities of the groups studied individually into consideration in the selection of the themes.

These general principles apply to our present task of adapting the Associative Group Analysis method to the frame of reference of the groups and to the domains which are in the focus of attention. Following a well established routine (Szalay & Maday, 1973) in the selection of dominant themes, general themes like "emergency," "risk," "nuclear war," and "Civil Defense," were used to elicit reactions which reveal notions which people are predisposed to use in thinking of these broader issues.

Officials of the Federal Emergency Management Agency are undoubtedly aware that the concepts they use (e.g., emergency evacuation or blast shelter) have well defined technical meanings and do not necessarily mean the same thing to the general public. Certain technical concepts are suspected to have very limited meaning, while others may have some undesirable connotations or denotations when used as everyday vocabulary. To obtain systematic information along this second line of semantic/terminological interest we also included technical terms which were identified by officials familiar with FEMA's mission and terminology.

A third group of themes to be included in every technically oriented study involves nontechnical neutral words. It is our experience that in order to avoid the potentially adverse effects which can result from the exclusive use of technical terms taken from a very narrow field of interest, it is desirable to use them interspersed in a 1:2 ratio with themes from other domains of life. In the context of our present study we have chosen nontechnical terms from such diverse domains as social values, politics, and international relations.

Themes and Domains Used in the Study

In line with the above considerations, the 60 stimulus themes used in this study fall into three main categories:

20 themes selected in representation of the "core domains" of emergency management and civil defense

20 themes representing "related domains" of potential relevance

20 "nontechnical themes," fill words, used to diversify the word list

The results of our previous investigations were used to identify important dimensions which have to be taken into consideration in order to carefully adapt our instrument to the characteristics of the groups and domains under study. The findings of this study were used to select stimulus themes to adapt the Associative Group Analysis and to address questions relevant to its application. These relevant findings were presented in our previous report "Public Perceptions and Beliefs on Civil Defense and Emergency Preparedness---Preliminary Findings, Instrument Development."

Administration of the Research Task

The research was introduced as an inquiry into people's images and meanings associated with timely issues involving emergency preparedness and civil defense. It was explained that the Federal Emergency Management Agency was interested in bridging differences in public perceptions through properly designed education, training, and public information programs.

Following the general introduction, respondents received three consecutive tasks administered in group sessions. As a first task the participants completed a short background questionnaire. They were asked to give their age, sex, education, occupation, etc. It was explained that their participation was anonymous and that this information was needed only to assign them to the appropriate group for comparison purposes.

This was followed by the main task in which the respondents were asked to provide free association responses to selected themes, following the instructions presented in Appendix II. In this task the respondents received each theme on a separate slip of paper (Appendix II), and they were asked to give as many responses to each theme as they could think of in one minute.

The last task involved judgment of connotation. The respondents were asked to evaluate each theme as to whether it connotes something positive or negative, using +3 for very positive, +2 for quite positive, +1 for slightly positive, 0 if it is neutral, -1 for slightly negative, -2 for quite negative, and -3 for very negative connotations.

Part 1. DOMINANT PERCEPTIONS AND MOTIVATIONS

A COMPARISON OF STUDENTS AND ADULTS

There is considerable interest in tracing similarities and differences in people's beliefs and judgments, particularly with regard to political matters and issues. This interest is generally satisfied based on the traditional logic of opinion surveys. While our focus on public perceptions and motivations is closely related to public opinions, we use an innovative, systematic approach to reconstruct people's views along their original perspectives.

Without asking direct questions which require a stated opinion or judgment on a particular issue (e.g., whether one is for or against civil defense), we can determine how people actually perceive and subjectively understand that particular subject or issue, whether it is civil defense or emergency preparedness.

From the angle of public policy there is generally a great deal of concern over whether the public is for or against a particular subject or program. Through an in-depth study of people's subjective views and values, dominant dimensions of their perceptions and motivations will emerge. These, in turn, can be indicative of what people are likely to do.

The following analysis is centered on three main domains: a) natural disasters and hazards, b) emergencies and emergency management, and c) civil defense. By analyzing the subjective views and values of student and adult samples, we will reconstruct how these groups are predisposed to understand and to evaluate key issues used in the representation of these three domains.

Based on the trends observed across several themes and domains, the analysis will identify the dominant perspectives and dispositions of students and adults, including their characteristic similarities and differences. The analysis can also show the dominant parameters that shape peoples' views and values of specific themes, and how they influence behavior in the field of emergency preparedness and civil defense.

Disasters and Hazards from Student and Adult Perspectives

In this section students and adults are compared with respect to their subjective views and attitudes regarding hazards and natural disasters. The primary interest is in exploring, in general, how students and adults differ in their perception of disasters, hazards and risks. We are also interested in seeing how each group prepares to face various types of disasters and how they approach risks.

This chapter covers views on specific disasters (e.g., floods and tornadoes) as well as the general trends observed in this domain, which can offer insights into the differential perspectives characteristic of the students' and adults' frame of reference.

In examining specific disasters such as tornadoes, we are interested in assessing the similarities and differences in views between students and adults. We are also interested in determining each group's focus of attention or emphasis, what each group considers important or salient.

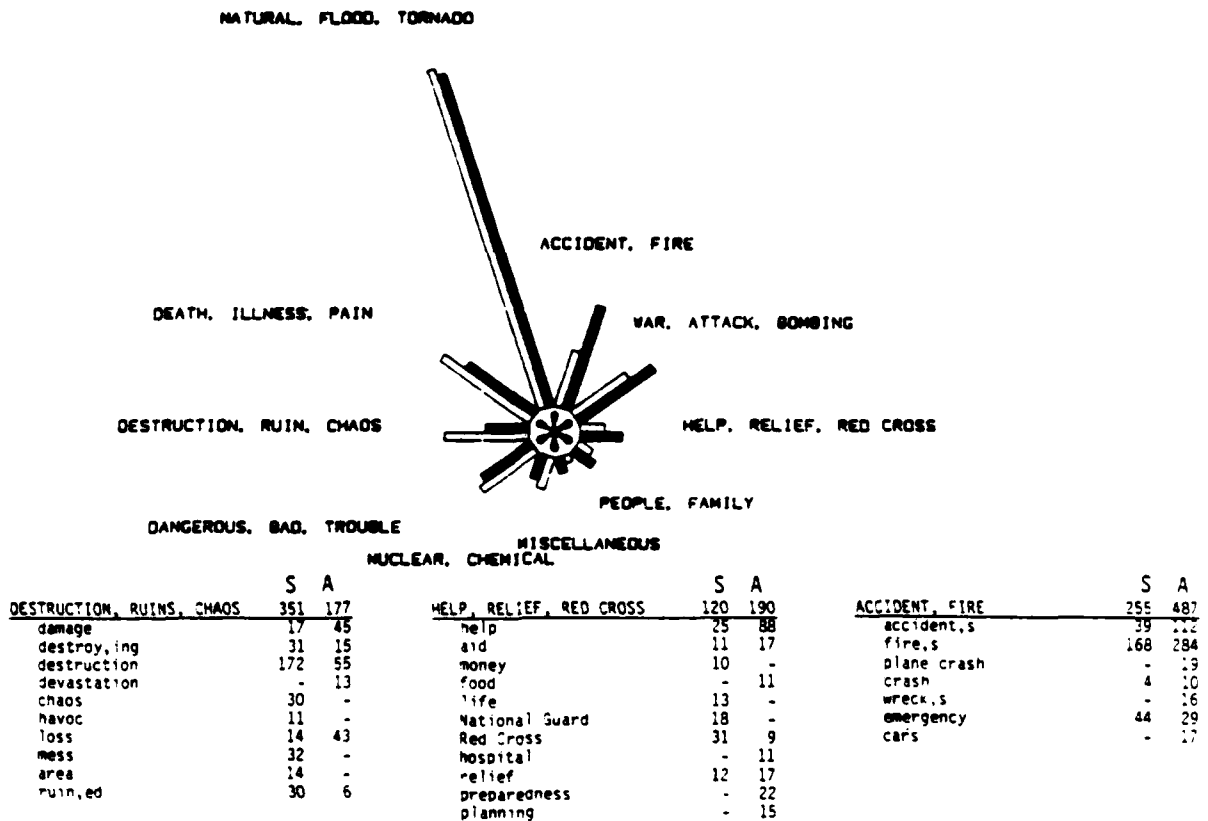
On a more general level, the analysis aims to assess trends observed in perceptions and evaluations of two or more specific disasters, which differentiate the students from the adults.

Consistent trends observed across several related subjects have been useful in identifying different perspectives and systems of subjective representation. These trends can also be used to determine how various groups approach essentially the same types of problems from rather different angles.

Finally, it is relevant to examine to what extent the differences observed between students and adults bear on established knowledge in this area, and whether explanations for these differences may be drawn from such knowledge.

DISASTERS

PERCEPTIONS AND EVALUATIONS
 — BY STUDENTS ■ BY ADULTS



A complete distribution of responses is shown in Appendix I. p. 2

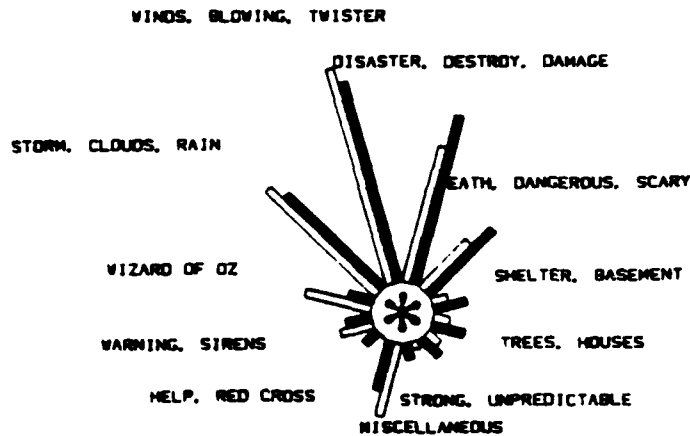
Both groups express similar concerns with such major natural disasters as floods, tornadoes and earthquakes, but students and adults differ in the amount of attention given to origin and consequences.

Students think more frequently of consequences; for them the imagery of destruction, ruin, and devastation is much more vivid and salient. They also think more often of dramatic details including panic, chaos, death, and suffering.

In the context of disasters, adults think more generally of such specifics as fire, accidents, and war. Furthermore, compared to the students, adults think more often of help, aid, relief, and preparedness. While students consider such external, organizational sources of assistance as the Red Cross or the National Guard, the adults think more about what they themselves can do to help.

TORNADO

PERCEPTIONS AND EVALUATIONS
 □ - BY STUDENTS ■ - BY ADULTS



	S	A	KANSAS, MIDWEST	S	A		S	A
WIZARD OF OZ	294	117	SHELTER, BASEMENT	92	180	DEATH, DANGEROUS, SCARY	314	451
Wizard of Oz	216	77	basement	55	34	death	152	188
Toto	19	-	protect,ion	-	19	bad	5	29
Dorothy	59	40	run	-	14	hurt	5	21
HELP, RED CROSS	15	61	shelter,s	37	87	injury	3	13
food	-	19	cellar	-	26	danger,ous	56	88
help	15	19				fear	41	66
Civil Defense	-	11				scary	43	36
Red Cross	-	12				frightening	9	10

A complete distribution of responses is shown in Appendix I, p. 3

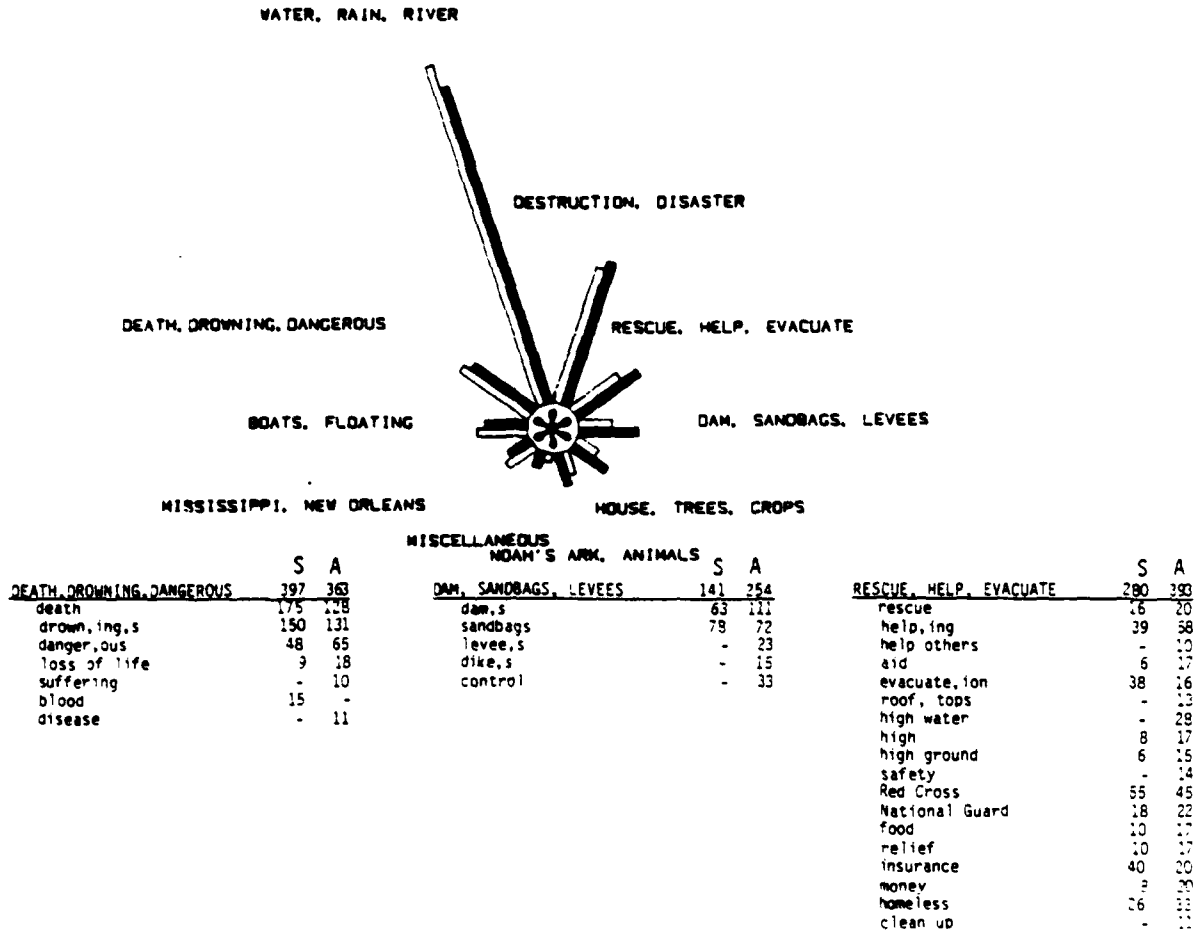
On the subject of tornadoes there is a natural agreement on such observables as wind, storms and rain. Students and adults also agree that tornadoes are disasters which can cause terrible destruction. There are minor differences, however, involving some of the less tangible dimensions and details.

As in the case of disasters in general, the adults think more often of specific needs involving assistance, help, protection as well as of shelters, food, and the role of civil defense. Again, they concentrate more on protection of people and property.

The students think more often of such things as emergency, watch and warning signals. Interestingly, it becomes apparent that the students associate tornadoes more with the story of the Wizard of Oz and think of Dorothy and Toto. Apparently, childhood stories have more vivid influence on the minds of the younger generation than on the older. While these details may have little practical relevance, in a way they illustrate the sensitivity of the approach in tracing shared dispositions generally assumed to be beyond measurable limits.

FLOOD

PERCEPTIONS AND EVALUATIONS
 — BY STUDENTS ■ BY ADULTS



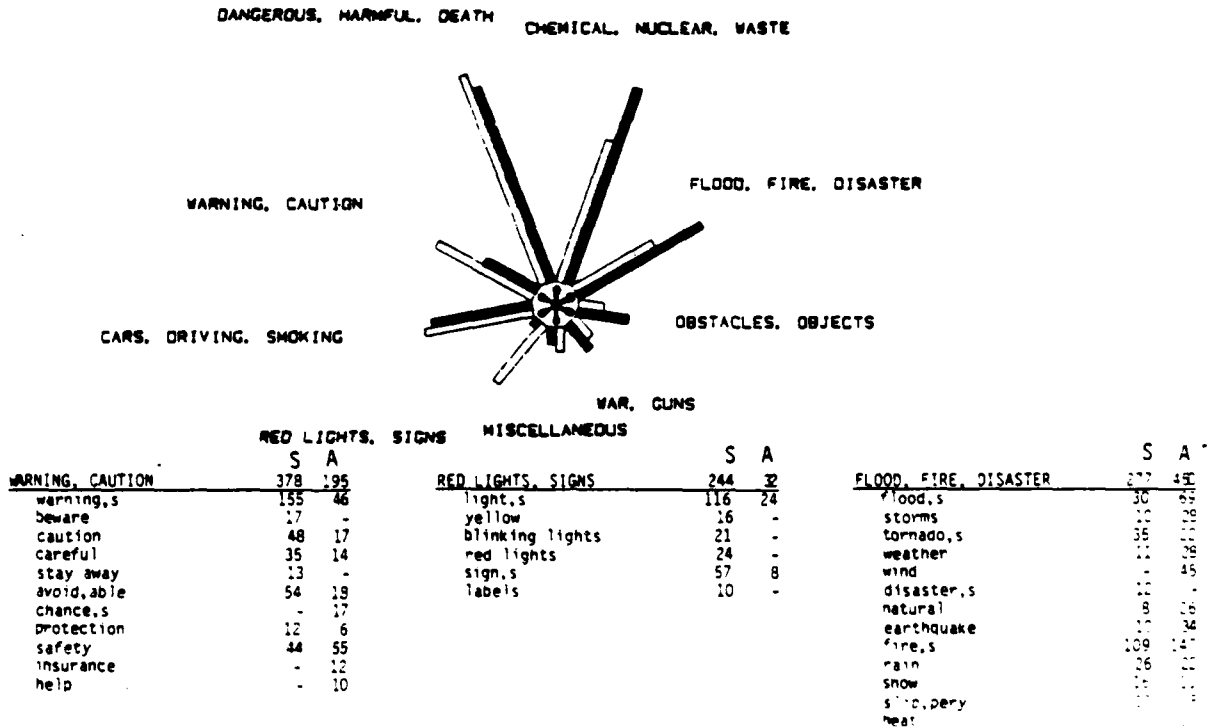
A complete distribution of responses is shown in Appendix I, p. 4

Flood conveys to both students and adults the imagery of masses of water, rain, rivers, mudslides, destruction, and disasters. At the same time, however, the students more commonly think of the excessive amount of water and the images of death by drowning.

Once again, the adults show a stronger focus on helping, assistance, aid, rescue and various protective measures. Along these lines, they think more of dams, levees, dikes, control, and other protective measures in general. Interestingly, emergencies, evacuation, and some of the preventive measures get more attention from the students.

HAZARDS

PERCEPTIONS AND EVALUATIONS
 □ - BY STUDENTS ■ - BY ADULTS



A complete distribution of responses is shown in Appendix I, p. 5

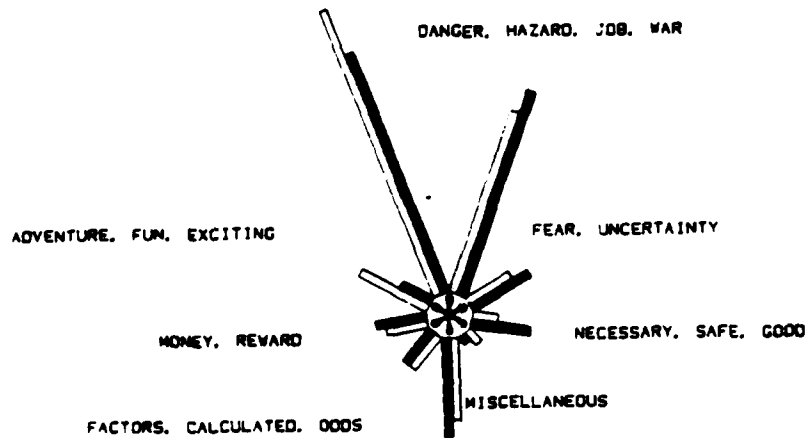
While there is similarity in associating dangers and various types of harm with hazards, the students and adults differ markedly in their focus of attention.

Adults are more inclined to associate hazards with a variety of natural and industrial disasters, chemical and nuclear accidents, as well as with war and weapons.

Students view hazards less in the context of such specifics, but relate them more generally to dangers. They think of hazards as more accidental, situational, and avoidable. This tendency is further reflected by stronger emphasis on warning, caution and carefulness, that is, attitudes related to avoiding hazards. Consistent with this attitude, students more often think of a variety of visual signals: signs, signals, light signals, blinking lights, yellow and red lights. At this point, the reason that the visual signals consistently receive more attention from the students than from the adults is less clear than the scope of the difference and the consistency of the trend.

RISK

PERCEPTIONS AND EVALUATIONS
 --- BY STUDENTS --- BY ADULTS
 CHANCE, TAKE, GAMBLE



	S	A
CHANCE, TAKE, GAMBLE	1035	771
chance,s	372	308
take,n,ing	63	83
take chances	18	-
taker	15	8
gamble,ing	119	112
decision,s	27	-
try	18	85
game	250	48
bet	14	11
dare,ing	56	93
brave,ry	22	-
courage,ous	30	15
attempt	19	-
choice	12	9

	S	A
LIFE, DEATH, HEALTH	262	120
ADVENTURE, FUN, EXCITING	262	120
adventure	63	25
travel	-	10
fun	69	26
excitement,ing	72	25
challenge	58	34

	S	A
NECESSRY, SAFE, GOOD	93	159
necessary	15	69
caution	17	-
avoid	-	10
worthwhile	11	-
safety	5	46
good	19	47
careful	18	-
luck	3	10

A complete distribution of responses is shown in Appendix I, p. 6

Students view risks as a source of adventure, fun, and excitement; they also see risks as a challenge. For students taking risks means considering one's chances as part of a game or gambling. Their strong tendency to view risks as a game reflects a playful attitude. It is consistent with these general trends that students also consider dangers, hazards, and high risks with a great deal of interest and excitement and a sense of adventure.

In contrast, the adults view risks as necessary concomitants of one's life, job, and everyday activities. They also associate risks more intensively with war, nuclear weapons, bombs, and military matters in general. To adults, risks are everywhere; they constitute an inescapable part of life and have to be considered as such. Further, adults more frequently view insurance as a protection against these inescapable risks. As such they see more good and bad aspects of risks than do the students who consider risks as less intrinsic to life but more as a matter of choice that calls for courage and offers excitement.

Summary: Perceptions and Evaluations of Disasters and Hazards by Students and Adults

In their subjective views of risks, hazards and the various natural disasters examined, the students and the adults show several distinct and consistent trends. These trends reveal certain characteristic differences in student and adult perspectives. Most of the traced perceptual trends fit with general characterizations of youth or adults.

Young people are generally described as adventurous and playful. Their general lack of everyday responsibilities helps to explain why, in the context of natural disasters and hazards, the students show much less concern than adults with family and children, their protection and security. The adult tendency to show more concern with help and protection is also compatible with the adult role and with the active, action and task-oriented pragmatism found in our various comparative cross-cultural studies to be generally characteristic of the American culture. The results not only support some general assumptions such as this, but also show how and to what extent they influence student and adult views on natural disasters, risks and hazards.

- * The students reveal a stronger tendency to stress negative effects such as destruction and chaos, death and pain, dramatic scenes reminiscent of vivid TV coverage.

- * The adults think of specific disasters (floods, fires, storms, etc.), and pay consistently more attention to war and military confrontation.

- * The students are concerned primarily with outside help through organizations such as the Red Cross or the National Guard; the adults tend to think of protective measures, some of them large scale organizational measures, others involving personal actions.

- * Students think more of receiving help, of other people helping them; adults think more of providing personal help, saving property, and of the other people needing help (e.g., family, children, women).

- * Students are concerned with warnings, danger signals and with danger in general; adults think more of sources of protection against risks, hazards and disasters.

- * Risks are generally viewed by the students as opportunities which become available through choice. From the adult perspective, risk is less a matter of free choice and more a natural part or inescapable element of everyday life.

- * The students' playful attitude is reflected in their view of taking risks as fun, entertaining and adventurous. Since without it there is no gain, risk is viewed by adults as both good and bad, and necessary as such.

The observed perceptual and motivational trends fit well, in most cases, with characteristics of age, sex, or attitudinal orientation. However, this should not detract from the novelty of the findings which show not only what characteristics apply and how, but also the degree of influence of these trends, their focus and their range in variation. It is one thing to anticipate that young people take a more adventurous posture; it is quite another to find out how this applies to their perceptions of various risks and disasters.

Emergencies and Emergency Management from Student and Adult Perspectives

One observation emerging from the previous chapter is that subjective views play a smaller role in people's representation of things that are tangible or concrete but have a much greater effect on their views of the less tangible and less observable dimensions of life.

For example, both students and adults agreed that floods involve a great deal of water and that tornadoes involve strong winds. Where the greater differences emerged between the two groups was on the more abstract themes such as risk. This was seen as a source of entertainment from one angle and as a ubiquitous threat from another.

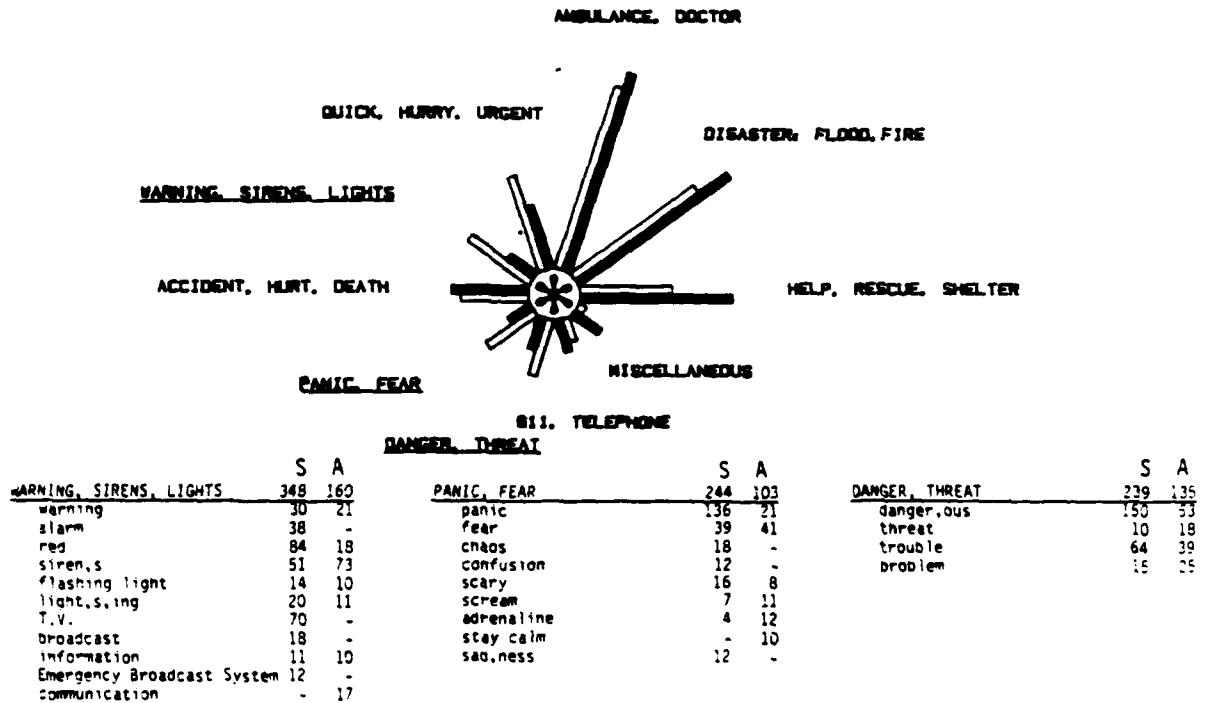
While "natural disasters" are universally known phenomena involving countless human experiences, "emergencies" generally refer to events or situations which are less concrete, more narrow and unpredictable. Disasters are extreme experiences having massive consequences, while emergencies often entail concerns and preparations for events which have not yet taken place.

These and other contrasts differentiate emergencies and emergency related themes from the previously examined subjects involving disasters and hazards.

More differences between groups will naturally be found when the themes examined are not tangible or directly observable. Therefore students and adults are more likely to assume different angles of observations and to view these emergency related issues from quite different perspectives.

EMERGENCY

PERCEPTIONS AND EVALUATIONS
 □ - BY STUDENTS ■ - BY ADULTS



A complete distribution of responses is shown in Appendix I. p. 7

Both for students and adults, disasters are the most dominant and natural contexts leading to emergencies. The difference here is mainly that the adults think of more specific disasters such as fires, floods, or war, while the students think of disasters in general. The next most dominant consideration involves medical measures or assistance: doctors, hospitals. The students think particularly vividly of ambulances.

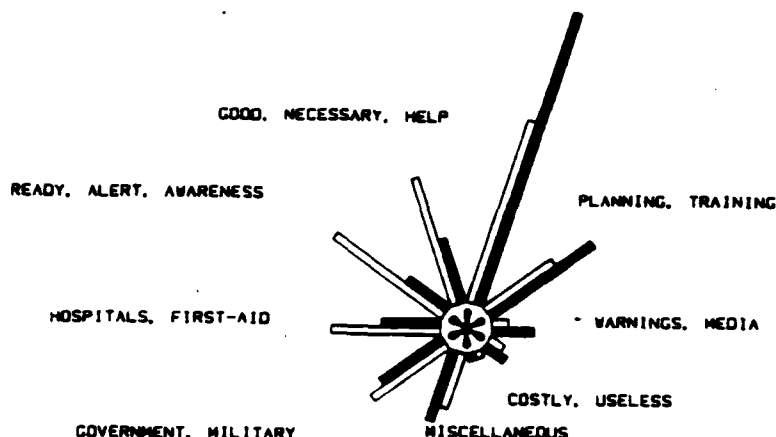
Beyond these minor details, the essential differences involve more subjective perspectives. The students' imagination is captured more by the dangers and troubles involved. In keeping with this focus, they think more of panic and other human reactions associated with fear. Similarly, they pay more attention to signals of danger and warning, particularly to red lights, and think more of the need for quick, immediate response.

The adults, on the other hand, reveal a greater preoccupation with preventive or protective measures---help, assistance, rescue, etc. They think more of people, children, family, and property.

EMERGENCY PREPAREDNESS

PERCEPTIONS AND EVALUATIONS
 □ - BY STUDENTS ■ - BY ADULTS

SHELTER, FOOD, SAFETY



		DISASTER, WAR, BOMBS					
		S	A			S	A
READY, ALERT, AWARENESS		350	142	PLANNING, TRAINING		211	360
ready		185	69	plan, ned, ning		36	135
readiness		46	11	plans		10	29
alert		31	7	organized, tion		9	25
prepared		23	-	knowledge, able		24	42
prepare, ation		7	10	learn		4	10
precaution		19	-	books		-	10
aware, ness		32	9	instruction		-	10
prevention		13	-	educated, ion		6	28
time		-	11	training, ed		62	33
hurry		13	18	practice		23	14
quick		13	7	fire drill		-	7
				school		-	6
				get ready		12	-
				management		-	11
				merit badge		10	-
				Boy Scout, s		15	-
		S	A			S	A
SHELTER, FOOD, SAFETY		501	897				
shelter, s		120	206				
basement		-	10				
fall-out shelter		-	12				
food		115	267				
supply, ies		27	46				
extra food		11	-				
water		38	130				
flashlight		20	-				
blankets		19	8				
safe, ty		71	47				
clothes, ing		10	44				
evacuation		13	30				
run		16	-				
family		10	43				
people		31	44				
self		-	10				

A complete distribution of responses is shown in Appendix I, p. 8

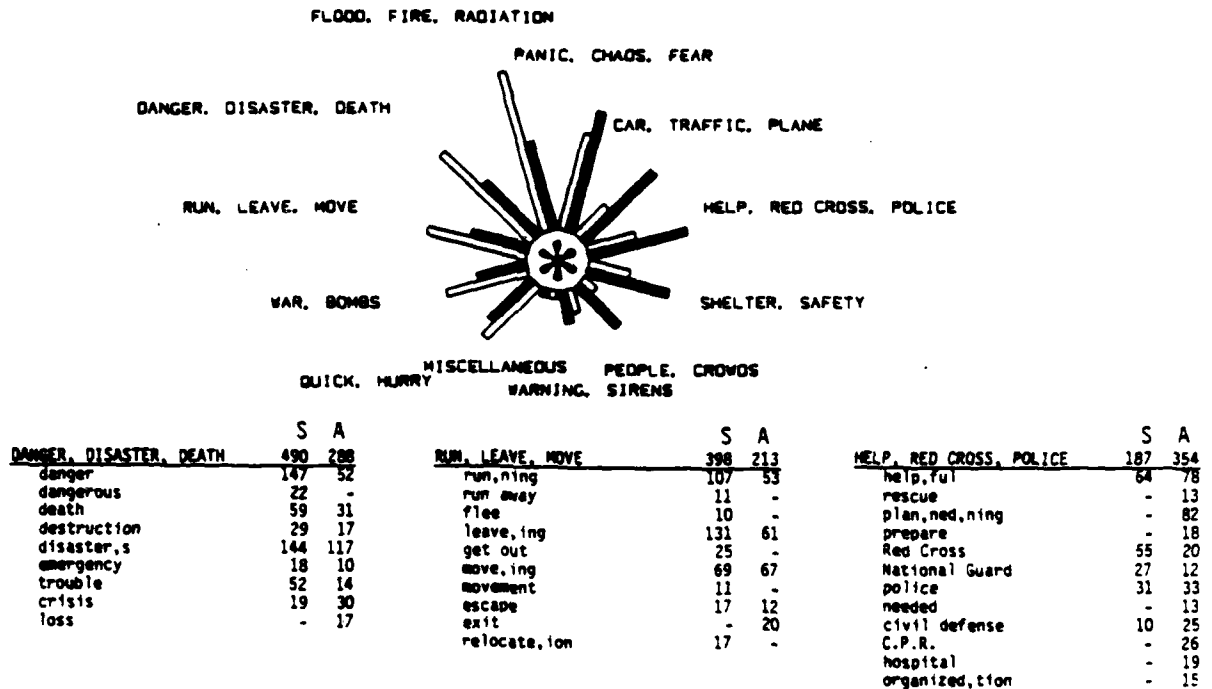
Both groups view emergency preparedness as relating to war-related emergencies as opposed to natural disaster emergencies. Beyond a heavy emphasis on war, this relationship is also conveyed through responses referring to the military, government and civil defense.

The students reveal a stronger interest in quick response. They are also more explicit in evaluating emergency preparedness as good, necessary, and as a source of help. The adults are less emphatic in verbal approval, and are more preoccupied with actual measures. They pay much more attention to planning and the development of plans, while the students think more of training and practice.

The adults' attention is heavily concentrated on actual measures of preparation and protection. The concern they show for shelters, food and water supply, as well as with warning and communication strategies, is about twice as intense as that shown by the students. They also express more explicit concern with people and family. Interestingly, the students show more concern with certain medical measures. At the same time, there is a small core group of adults apparently critical of preparedness measures, considering them useless.

EMERGENCY EVACUATION

PERCEPTIONS AND EVALUATIONS
 □ - BY STUDENTS ■ - BY ADULTS



A complete distribution of responses is shown in Appendix I, p. 9

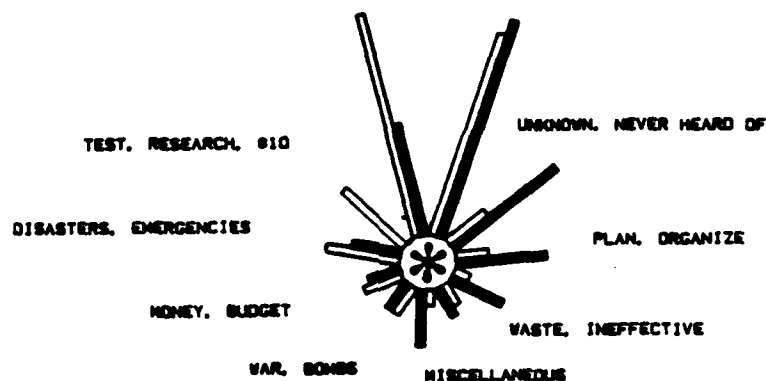
Students show more preoccupation with specific disasters, such as fires and floods, which require evacuation. They are also more explicitly concerned with war, nuclear war and bombs.

The students also speak of quick reactions, fast movements: running, leaving, fleeing, or escaping. Consistent with this focus of attention, the students show more intensive preoccupation with dangers, destruction and death. In turn this may explain their stronger disposition to think of fear and extreme fear reactions, such as panic and chaos.

The adults again focus on specific measures aimed at assistance and protection. They think more of shelter, food and safety, and proper vehicles, particularly cars, trucks and boats. They place much stronger emphasis on planning and think more in terms of help, assistance, and civil defense as protective measures.

The adults' focus on protective measures appears in combination with their stronger emphasis on children and family and people in general who need protection. Again, a group of adults express skepticism in emergency evacuation, that it may be useless and hopeless.

F. E. M. A.
PERCEPTIONS AND EVALUATIONS
□ - BY STUDENTS ■ - BY ADULTS
HELP, PROTECT, NECESSARY GOVERNMENT, BUREAUCRACY



		CIVIL DEFENSE, MILITARY					
		S	A			S	A
HELP, PROTECT, NECESSARY		523	234	PLAN, ORGANIZE		78	163
help	150	98		planning	15	54	
helpful	65	24		plans	-	32	
aid	57	-		preparedness	15	18	
protection	35	9		work	14	10	
Red Cross	27	-		training	-	17	
hospitals	10	11		network	-	10	
safety	24	20		organization	7	20	
security	13	-		management	27	-	
control	21	14		information	-	22	
precaution	11	-					
food	-	10					
good	18	11					
good idea	13	-					
necessary	37	20					
needed	11	20					
important	31	9					
				UNKNOWN, NEVER HEARD OF		115	274
				don't know	33	122	
				unknown	30	88	
				never heard of	37	-	
				none	-	13	
				who?	-	13	
				what?	15	18	
				why?	-	10	
				?	-	10	

A complete distribution of responses is shown in Appendix I. p. 10

Both students and adults identify FEMA as part of the federal government and as part of the governmental bureaucracy. The students view its main function in the context of disasters and emergencies, while the adults view FEMA more in the military sphere of activities, the Pentagon and civil defense.

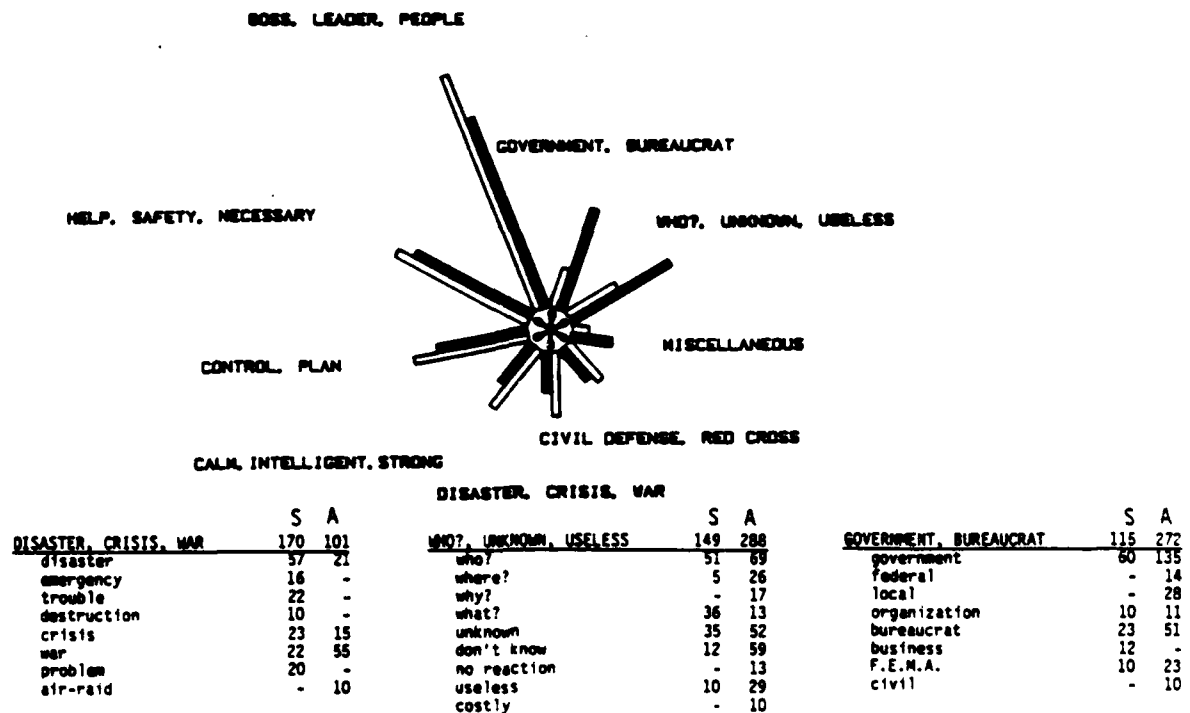
Once more, the students are more emphatic in their verbal approval, characterizing FEMA as helpful, as a source of help, assistance and safety, describing it more explicitly as good and necessary.

Adults think more of specific functions, particularly planning, preparation, organization and information. Yet at the same time, adults also express a relatively high degree of unfamiliarity with FEMA as conveyed by such spontaneous reactions as "don't know", "unknown", or "who?". Further analysis revealed that these are primarily Midwest and West Coast adults.

In this context as in others a group of adults expresses critical and skeptical attitudes which characterize FEMA as wasteful, useless, and impractical.

EMERGENCY MANAGEMENT OFFICER

PERCEPTIONS AND EVALUATIONS
 □ - BY STUDENTS ■ - BY ADULTS



A complete distribution of responses is shown in Appendix I, p. 11

Students and adults agree on several major characteristics. Both groups, but the students in particular, view the role of the Emergency Management Officer as a one of leadership. More specifically, they identify him as an official, a policeman or fireman who directs and coordinates. He is further seen as being in charge and as a source of control, authority and responsibility. The students project an increasingly positive image involving such personality characteristics as being calm, quick, intelligent and knowledgeable.

The students are also more positive in characterizing the Emergency Management Officer as a source of help, aid, protection, safety and security. While students stress importance, the adults think more of guidance, assistance, management and coordination.

In the case of FEMA and the Emergency Management Officer the students think more of natural disasters, while the adults think more of war and civil defense.

A group of adults is critical and responds with negative images which describe the role of FEMA and the EMO as either useless or unknown. The adults also view it in closer relationship to government and bureaucracy.

Summary: Perceptions and Evaluations of Emergencies and Emergency Management
by Students and Adults

Two general consistencies emerge from the previous analysis. The students, who were more preoccupied with dangers in emergency contexts, also show a stronger inclination to consider panic, chaos and a variety of other fear reactions. The students, who tend to be reactive, also place more emphasis on the importance of quick reactions and also think more of running, fleeing and escaping. Naturally, affirming the dimensions of danger and fear is consistent with thinking more of panic, running and escape. The response trends observed in the context of each individual theme emerge with remarkable uniformity across the themes analyzed. The most apparent consistencies observed in this domain across several or all the issues analyzed, include some characteristic differences which set apart the student and the adult views and perspectives.

- * The students show a greater interest in action, training, and practice, while the adults think more of planning and preparation.

- * Students are more preoccupied with causes and dangers associated with emergencies, whereas the adults more actively think of help, assistance and involvement in preparation and protective measures.

- * The students think more of dangers, panic and escape; the adults show a greater preoccupation with the specific human needs --- food, water, shelter, rescue, planning and implementation.

- * The students imagine receiving assistance, while the adults think more of the practical alternatives of providing assistance and protection.

- * Students are more explicit in expressing positive attitudes and approval for measures and agencies involved in emergency preparedness; the adults show a greater interest in concrete measures, their quality, utility and personal involvement.

- * The students are attracted by dramatic details, extreme manifestations of fear reactions, panic and chaos associated with emergencies; the adults generally show a more matter-of-fact, occasionally skeptical or cynical attitude.

- * The students view emergencies more from the angle of receiving protection in situations of extreme danger which require special measures; the adults view emergencies from the angle of what can be done for the protection of people, children, family, etc.

These trends emerge with considerable consistency across all five themes. There are some differences in focus, depending on whether we are considering the three emergency-related issues: Emergency, Emergency Preparedness and Emergency Evacuation, or the emergency-related agency/agents, FEMA and the Emergency Management Officers. Students are generally more positive and optimistic about the role of these agencies, whereas the adults are more cautious, some more cynical and critical. Also, students tend to place these governmental institutions in the context of disasters, while adults view them in war and civil defense circumstances. While students feel better informed, the adults express a considerable lack of familiarity with both FEMA and EMOs.

Civil Defense From Student And Adult Perspectives

Civil Defense in the context of nuclear attack preparedness is the newest and most demanding area of emergency preparedness. Coping with natural disasters such as tornadoes or floods has been a perennial concern of man since the beginning of history. Protecting civilian populations against the various effects of nuclear or other modern mass destruction weapons is naturally a subject of exceptional complexity and timeliness.

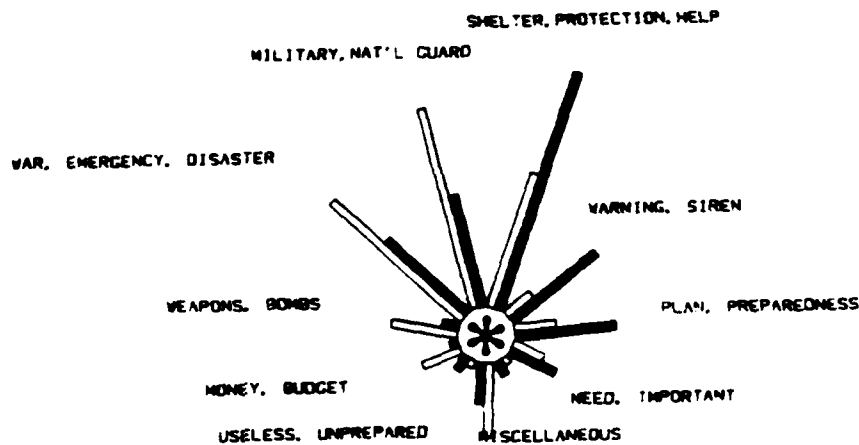
Preparing for natural disasters and other emergencies is generally based on past experiences; however, when plans and preparations must be made for reducing civilian casualties and suffering caused by unconventional weapons or nuclear war, numerous problems arise. Although difficult to confront, these problems are nonetheless very real.

The first, primarily methodological phase of this study has shown that peoples' attitudes toward particular civil defense measures (e.g., blast shelter, fall-out shelter, relocation, etc.) had little to do with the actual technical qualities but depended mainly on peoples' attitudes toward civil defense in general.

At the same time, from a narrow task orientation it is tempting to view FEMA's mission as an aggregate of single isolated technical tasks. Against this background it is particularly interesting to explore the views of students and adults, their similarities and differences related to the complex subject area of civil defense.

CIVIL DEFENSE

PERCEPTIONS AND EVALUATIONS
 — BY STUDENTS ■ BY ADULTS



	S	A
MILITARY, NATIONAL GUARD	621	360
military	30	22
Army	180	37
Navy	59	22
airforce	35	10
marines	33	-
Coast Guard	12	11
National Guard	75	62
soldiers	15	-
reserves	10	-
people	47	67
workers	6	16
volunteers	20	40
police	42	19
warden	-	23
leaders	7	17
men	-	14

	S	A
GOVERNMENT, U.S.	518	335
WAR, EMERGENCY, DISASTER	238	141
war	17	6
attack	10	-
nuclear attack	30	13
nuclear war	22	23
nuclear	22	46
air-raid	17	-
defense	13	-
invasion	21	-
death	41	-
fighting	18	-
riots	20	39
disaster	37	48
emergencies	12	19
tornado	-	-

	S	A
SHELTER, PROTECTION, HELP	433	792
shelters	54	125
bomb shelter	10	14
protection	198	125
security	27	50
safety	61	43
helpful	68	123
aid	-	30
food	6	47
water	-	19
Red Cross	-	34
evacuation	-	16
place	-	11
buildings	-	20
basement	-	11
cooperation	-	11
patrol	-	11
helmet	4	16
hand	-	-

A complete distribution of responses is shown in Appendix I, p. 12

The students view civil defense as a military operation; they think of conventional military forces, the Army, the Navy, and of weapons and guns.

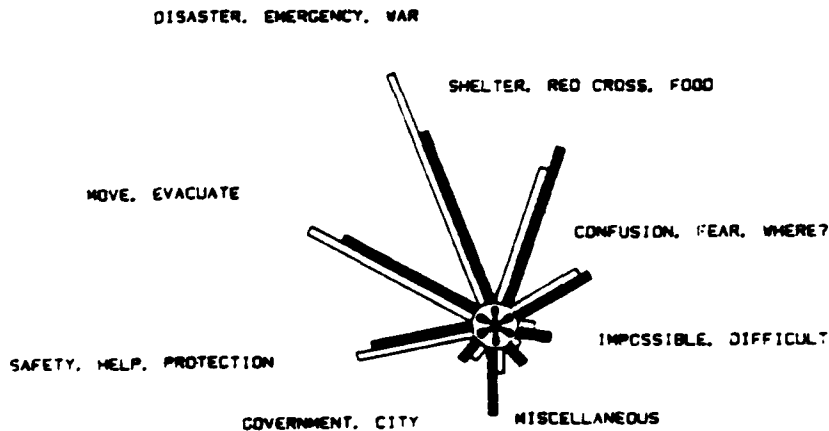
To the adults civil defense is a civilian operation with less emphasis on the military and more on paramilitary or civilian involvements and measures. The measures considered are also more defensive and protective in nature, with particularly strong emphasis on shelters and civilian needs involving housing, food and water supplies, and various forms of aid and help.

The students relate civil defense to both conventional and nuclear war, and they show apparently more expectations with regard to the role of the government. They also consider more the two main adversaries, the U.S. and the U.S.S.R., and emphasize the role of the president, particularly President Reagan.

The adults speak more of civilian and personal involvement and place substantially more emphasis on advanced planning and preparation than the students. In this context this goes together with more concern expressed with warning and warning systems involving sirens, radios and other technical means.

CRISIS RELOCATION

PERCEPTIONS AND EVALUATIONS
 --- BY STUDENTS ■ BY ADULTS



	S	A
DISASTER, EMERGENCY, WAR	631	493
disaster	127	34
emergency	96	59
danger	50	19
trouble	35	14
losses, lost	28	41
homeless	19	13
no home	10	-
problems	26	28
fire	17	15
floods	29	36
tornado	6	17
hurricane	5	10
war	74	96
nuclear	22	14
attack	4	11
nuclear war	16	-
bombs	-	29
death	17	7

	S	A
FAMILY, PEOPLE	62	171
family	25	47
friends	6	10
people	33	78
volunteers	10	-
children	-	14
Japanese	11	-
refugees	-	22

	S	A
CONFUSION, FEAR, WHERE?	179	216
confusion	6	10
chaos	23	-
anxiety	12	-
panic	22	12
traffic jam	6	13
fear	17	32
crying	4	10
sad	11	-
pain	17	-
don't know	12	33
where?	29	63
why?	-	16

A complete distribution of responses is shown in Appendix I, p. 13

The students think more of physical movement, while the adults think more of transportation and technical means. Adults show more concern again with people, schools, churches, and homes, and a preoccupation with providing aid and help.

The students think again of the contexts and causes which can necessitate crisis relocation: disasters, emergencies, dangers. The adults think somewhat more of war, bombs and attack. Along with their disposition to think of the dangers, the students also think vividly of fear and anxiety and their various manifestations.

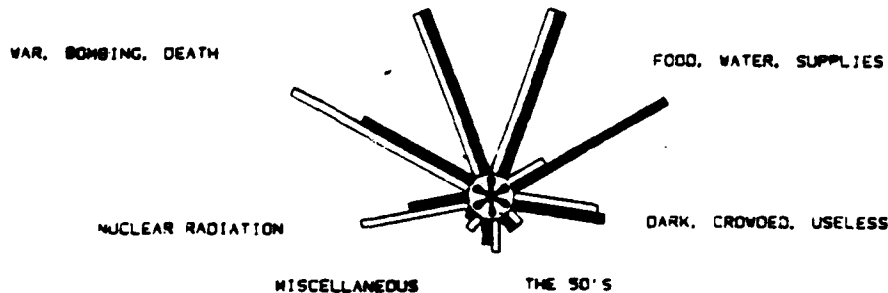
Again the adults think more of people in general and also more specifically of family, friends, children, refugees, etc.

Compared to the students the adults express more uncertainties in regard to the idea of crisis relocation: don't know, where, why. They are also more critical or skeptical as suggested by their references to difficulties, traffic jams, etc. While the students express verbal approval, stressing importance and necessity, the adults think more of specific useful measures and again place greater emphasis on planning and related preparations.

FALL-OUT SHELTER

PERCEPTIONS AND EVALUATIONS
 — BY STUDENTS — BY ADULTS

BASEMENT, UNDERGROUND SAFETY, PROTECTION, LIFE



		THE 50'S			
		S	A	S	A
WAR, BOMBING, DEATH		792	437	FEAR, PANIC	
war	308	136	NUCLEAR, RADIATION		416 214
WW II	8	13	nuclear	134	96
air-raid	8	12	nuclear war	86	22
bombing	205	156	nuclear attack	24	-
explosion	-	20	radiation, inactive	172	86
death	109	42	atomic	-	10
destruction	43	13			
disaster	29	17			
emergency	30	10			
danger	33	18			
tornado	19	-			
				FOOD, WATER, SUPPLIES	
				178	625
				113	259
				18	15
				-	11
				38	163
				-	40
				3	29
				-	14
				-	16
				-	26
				-	16
				-	10
				-	10

A complete distribution of responses is shown in Appendix I, p. 14

In terms of certain observable attributes of the shelter (e.g., underground location, concrete or cement structure), students and adults have similar ideas. There is also general agreement that the main objective is safety and protection. The differences in student and adult views again involve certain subjective perspectives.

The students who are usually preoccupied with the causes of emergencies, think rather intensively of war and bombing. As is commonly the case, they think more of the dangers, destruction and death. They also think of nuclear war and radiation as the main contexts of use. This may explain why students think more of fear, being scared, of panic and other fear reactions.

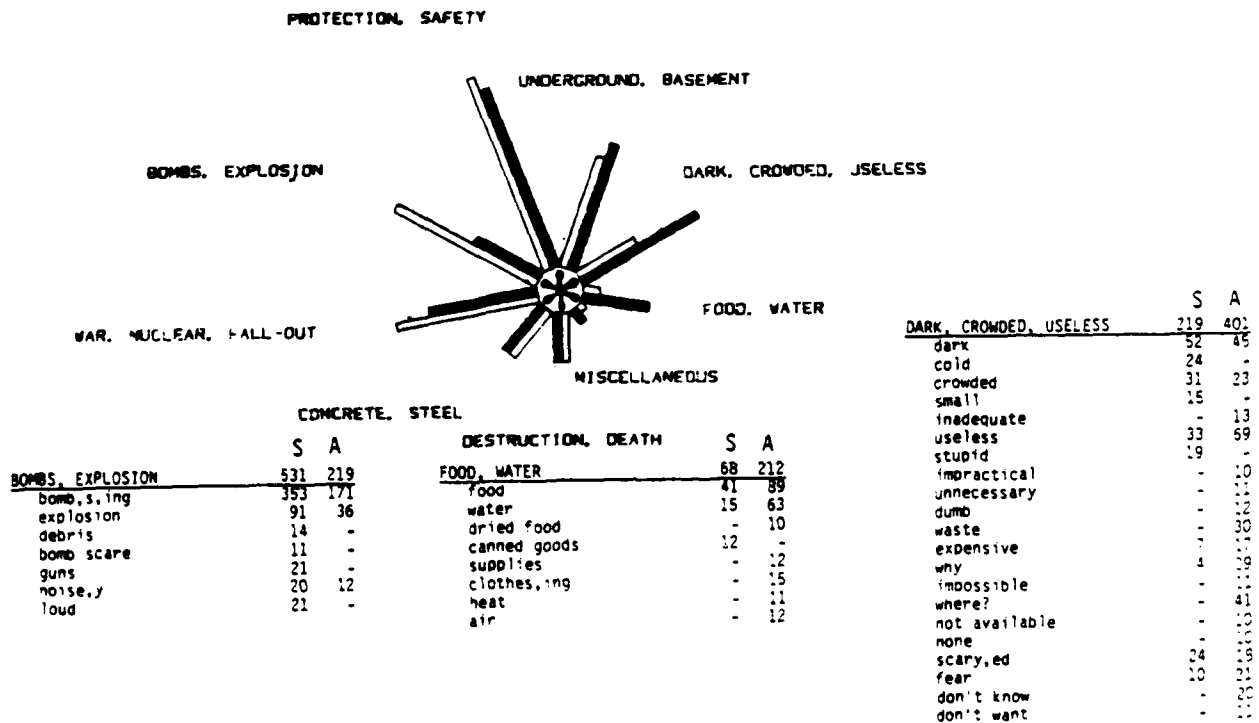
The adults pay consistently less attention to these contexts of use. In comparison the adults think more of effective measures, particularly those designed to meet human needs. They are also preoccupied with food, water, medicine, blankets, and other supplies.

As in several other contexts the students show more preoccupation with all the negative things that could happen. At the same time the adults are concerned with specific human needs and think of ways to provide for them. The adults are articulate in voicing skepticism that fall-out shelters may be impractical and antiquated.

BLAST SHELTER

PERCEPTIONS AND EVALUATIONS

□ - BY STUDENTS ■ - BY ADULTS



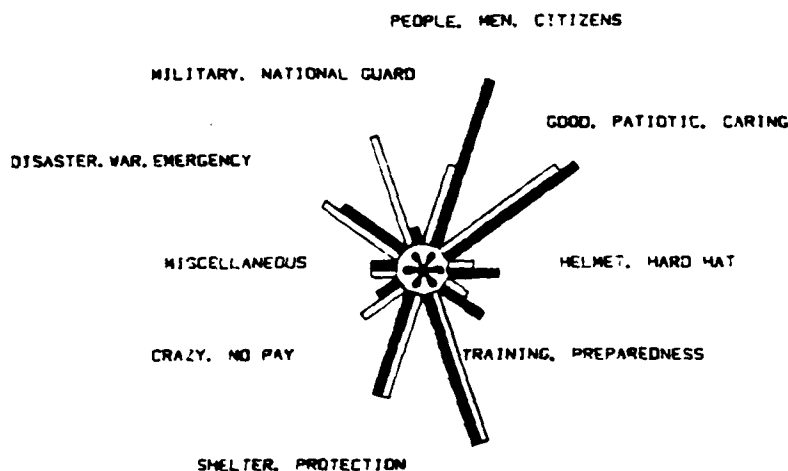
A complete distribution of responses is shown in Appendix I, p. 15

As in the case of the fall-out shelter, there is a close agreement between students and adults about certain tangible characteristics. Both characterize shelters as being placed underground and in the basements of buildings. There is agreement about shelters being built of concrete, cement, and steel. There is also considerable consensus that their purpose is to provide protection, safety and security.

The students emphasize protection and safety in general. This is consistent with their stronger preoccupation with the various dangers and threats associated with their use. They think more of war in general, of bombs and explosions, and also of nuclear war and radiation. They again show more preoccupation with destruction and death.

Compared to the students the adults think more of food, water and other supplies necessary for survival. Both students and adults have a strong imagery of dark, cold and crowded shelters. While in the case of the students this may have its roots in war movies and TV, in the case of the adults it emerges in combination with intensive reactions reflecting skepticism about the utility of blast shelters. The strongest points made by the adults are that these shelters are useless, expensive and wasteful.

PERCEPTIONS AND EVALUATIONS
 ■ - BY STUDENTS ■ - BY ADULTS



		HELP, AID			
	S	A		S	A
MILITARY, NATIONAL GUARD	285	39	GOOD, PATRIOTIC, CARING	347	408
military	36	-	good	135	105
Army	75	24	necessary	15	35
National Guard	90	15	need,ed	29	89
Air Force	10	-	important	-	21
fight,ing	14	-	brave	38	11
soldier	12	-	patriot,ic	32	-
draft	17	-	dedicated	-	22
minutemen	11	-	give,ing	18	7
weapons	10	-	caring	27	23
guns	10	-	concerned	33	10
			knowledge,able	-	14
			authority	-	14
			defend,ing	14	-
			admirable	-	15
			peace	-	11
			useful	-	12
			willing	6	19
			PEOPLE, MEN, CITIZENS	307	448
			people	12	101
			person	26	50
			man, men, male	42	45
			woman	-	37
			me	10	10
			nurse	14	-
			police	16	7
			friend	-	20
			volunteer,s	12	10
			warden	-	18
			fireman	9	13
			worker	13	54
			citizen	12	12
			neighbor	11	24
			neighborhood	-	11
			community	6	39
			country	14	-

A complete distribution of responses is shown in Appendix I, p. 16

The students see the role of the civil defense volunteer more intensively in relationship to the military and the national guard. This is consistent with their strong disposition to think of war and fighting with regard to civil defense. The adults think of the civil defense volunteer more in the context of natural disasters. This may partially explain why these two groups emphasize somewhat different characteristics. The students think more of the personal qualities of bravery, courage, and patriotism. The adults look at them more from the angle of their service, saying that it is important and needed.

Consistent with their usual preoccupation with the human dimensions of emergencies and disasters, the adults also think more of the community and neighborhood in this context, as well as of people in general. The adults place greater emphasis on the training and preparedness of volunteers.

The students show more awareness that the volunteers are working without payment. The few derogatory responses like crazy and stupid may have their origin in the willingness to work without remuneration. The references to the unpaid nature of the work may have predominantly positive undertones since they occur in combination with a recognition of positive human qualities.

Summary: Perceptions and Evaluations of Civil Defense by Students and Adults

In the domain of civil defense related measures, students and adults show consistent similarities and differences. Across closely related themes such as crisis relocation, blast shelter and fall-out shelter, the similarities are particularly consistent. Trends were also apparent in the student and adult views of civil defense and civil defense volunteer. The similarities and differences observed in this domain tie in closely with the trends observed in the domains of natural disasters and emergency preparedness.

- * The students think of the various civil defense measures as related to war and military activities; the adults show a stronger inclination to place these measures in the context of disasters.

- * Students look at these measures from the angle of individual security, while adults consider the utility of these measures in terms of people or groups in general (e.g., children, family, neighborhood, etc.).

- * The students think in more general terms of war and disasters; they express greater concern with the personal dangers associated with these occurrences, including destruction and death.

- * The students speak more of the military and the government, probably due to their inclination to emphasize receiving assistance. In comparison, the adults look at the measures from a civilian self-help angle which includes being caretaker or protector.

- * The adults are concerned with concrete measures, particularly those designed to assure food, water, medicine, various other supplies as well as warning and transportation.

- * The students think more generally in terms of the occasion representing the emergency (e.g., war or disaster) and show stronger preoccupation with their potentially harmful consequences.

- * Consistent with their preoccupation with dangers, destruction and death, the students also show more concern with fear and with such related reactions as panic and chaos.

- * While adults show more concern with specific measures, including evacuation and shelters, they also express more skeptical and critical attitudes about their utility. A subgroup of adults has shown a consistently stronger inclination to consider the various civil defense measures as useless and wasteful. While these reactions represent a minority view, they do support the general trend that adults are more concerned with the utility of specific measures.

Main Trends of Public Perceptions From Student And Adult Perspectives

The results presented in this section demonstrate how perspectives can vary depending on age and experience. In addition, the findings show that despite basic agreements in positive or negative evaluations (e.g., the predominantly positive attitudes of both groups toward civil defense), substantial and consistent differences in perspectives exist. These different perspectives and dispositions influence the way people construe, approach and attack problems.

Of the three domains examined, the students and adults showed the most agreement in the domain of disasters. The greatest similarity was found in their views on specific natural disasters; both groups emphasized the observable and tangible characteristics of these occurrences. The main differences found between the groups were limited to variations in the distribution of their attention.

Students, for example, think more of dangers, destruction, loss of life, suffering, extreme and dramatic consequences. On the other hand, adults are consistently more concerned with protective measures, plans and preparations, food and medical supplies; they are also greatly concerned about people in need, their family and children, providing personal help and saving property.

Students think more of receiving help and avoiding dangers. They also emphasize the need to respond to danger signals with quick, immediate action, but rely primarily on outside help and organizational assistance.

In construing risks, students again think of dangers, but also of chances and benefits. They view risks as optional, a matter of free choice. Risks are a source of gain, as well as a means of entertainment, fun and part of a game. Adults look at risk as an inherent part of almost all activities, a continuous and inescapable element of existence which calls for effective counter measures of protection and insurance.

In the domain of emergency preparedness, students and adults show larger differences in perspectives. The students show more interest in action, training and practice, while the adults think more of planning and preparation. Fitting with their preoccupation with dangers, students think more intensively of fear, chaos, and panic and express interest in the causes and sources of dangers. In certain contexts this leads to greater concern with preventive measures such as recognizing danger signals. The adults are more preoccupied with protective measures, help and assistance.

Adults think more of human needs: food, water, shelter, medical supplies, etc. They are constantly concerned with other people, family, children, and with the protection of property. Since students are more predisposed to count on help, this may partially explain why, in the context of emergencies, students express more positive attitudes, more faith in agencies and more trust in their assistance.

Students are generally more positive and optimistic about government agencies/administrators such as FEMA or Emergency Management Officers. Adults on the other hand are more cautious and occasionally more critical in their views. Adults are also more skeptical and critical than students in their views of certain emergency procedures. They view these procedures from the angle of what needs to be done to protect people, children, and property.

In the domain of civil defense some of the previously mentioned trends emerge with considerable consistency. Again, students show a stronger preoccupation with dangers related to war and disasters while adults see civil defense related matters in terms of natural disasters. The students anticipate more destructive consequences resulting in ruins and death and show a stronger tendency to think of fear, panic and chaos.

The students think of civil defense measures from the angle of their own security, while the adults view them more from the angle of their utility to people in general or to family, children and neighbourhood in particular.

The students pay more attention to the role of the military and the government, probably due to their inclination to rely on outside assistance. In comparison, the adults pay more attention to the role of civilians, their self-help efforts as protectors and caretakers. The adults also emphasize such emergency measures as providing food, water, medicine and transportation as called for by emerging needs.

Although adults show greater interest in specific civil defense measures from shelters to emergency evacuation, they also express more skepticism about the utility of these measures.

Among the adults there is a relatively small group which expresses a strong skepticism about civil defense measures, characterizing them as useless and wasteful. The majority of views are positive about the desirability of these measures, and conveys a strong interest in making these measures effective and successful.

There exists a great need to reach the public through effective programs and information. Through new insights into peoples' perceptions, rich and diverse opportunities arise. One such area relates to volunteering and self-help. This context of application deserves special attention because of the growing need to approach emergency preparedness and civil defense through the American public, its potential to "rise to the occasion" in the face of common dangers. It is exactly in these contexts, that volunteering and self-help are of special importance. Examining the types of insights our findings offer in this respect, and how they could be used to promote broad involvement of the American public, is critical to national interest.

Part 2. DOMINANT PERCEPTIONS AND MOTIVATIONS

A COMPARISON OF MALES AND FEMALES

The preceding section presented results which show the effects of age and experience on the perceptions of students and adults. In this section we will compare the perceptions of males and females, to examine how sex differences may affect public perceptions. The presentation of these comparative findings will cover the same three domains previously discussed: natural disasters, emergency preparedness and civil defense.

Against the background of student/adult differences, it is of interest to explore how the male and female perspectives compare with each other, and how they differ from student and adult perspectives both in scope and in content.

As the results on students and adults have shown, differences in perspectives depend not only on the background of the groups compared, but also on the domain of comparison, e.g., whether the subjects are concrete or abstract, observable or ideational, neutral or affect-laden.

In previous investigations which centered on a diversity of domains, we discovered that the magnitude of perceptual differences between males and females was somewhat smaller than between students and adults (Lorand B. Szalay, Antonio Diaz Rojo, and Manuel Miranda, Comparative Analysis of Mexican American, Puerto Rican, Cuban and Anglo American Psycho-Cultural Dispositions, Institute of Comparative Social and Cultural Studies, Inc., Washington D.C. 1983; Lorand B. Szalay and Rogelio Diaz-Guerrero, "Similarities and Differences between Subjective Cultures: A Comparison of Latin, Hispanic and Anglo Americans," published in Cross-Cultural and National Studies in Social Psychology, edited by R. Diaz Guerrero, Elsevier Science Publisher, North Holland, 1985.)

Disasters and Hazards from Male and Female Perspectives

As illustrated by the previous results on student/adult differences, there was more agreement between the two groups on the domain of disasters than on the other two domains examined. This is largely due to the fact that natural disasters such as tornadoes or floods are observable events; therefore, observable references such as wind and rain constitute a broader base for consensus.

While this probably applies to the comparison of males and females as well, we can expect greater male/female differences in the less tangible components of subjective meanings, such as the degree of attention given to dangers and fear, or to protection and preventive measures.

The differences observed between students and adults illustrate an interesting dilemma which is worth considering. We found, for example, that adults think more of protecting and caring for others (e.g., family, children), while students were more concerned with their own protection. One may be inclined to guess that some similar distinctions may apply to males and females as well. Traditional female attitudes entail more reliance on being protected. However, with changing sex roles it remains uncertain whether such a distinction is still relevant.

The following empirical data on male/female differences in the domain of disasters offer some valid insights into the underlying perceptual and motivational dispositions despite their subjective nature.

DISASTERS

PERCEPTIONS AND EVALUATIONS

□ - BY MALES

■ - BY FEMALES

NATURAL, FLOOD, TORNADO

DEATH, ILLNESS, PAIN

WAR, ATTACK, BOMBING

ACCIDENT, FIRE

NUCLEAR, CHEMICAL

DANGEROUS, BAD, TROUBLE

HELP, RELIEF, RED CROSS

DESTRUCTION, RUIN, CHAOS

MISCELLANEOUS
PEOPLE, FAMILY

	M	F		M	F		M	F
WAR, ATTACK, BOMBING	495	329	ACCIDENT, FIRE	279	451	DEATH, ILLNESS, PAIN	397	531
war,s	252	203	accidents	34	106	death,s	202	243
nuc. war	48	64	plane crash	18	7	holocaust	18	20
nuc. attack	-	15	fire,s	169	273	sickness	18	14
attack	18	7	car/auto accident	-	14	illness	-	18
bomb,s,ing	151	33	wreck,s	16	-	famine	30	36
explosion	13	7	emergency	31	40	hunger	7	10
riots	13	-	crash	11	-	injury,ies	26	12
			fall	-	11	pain	36	41
						suffering	21	-
						fear	-	26
						sorrow	13	5
						hurt	11	23
						sad,ness	-	40
						disease	7	24
						doom	9	-
						harm	-	12

A complete distribution of responses is shown in Appendix I. p. 17

Males and females list with about the same intensity many natural disasters. The greatest amount of attention is given to floods, followed by tornadoes, hurricanes and earthquakes.

Man-made disasters, particularly in relation to wars and bombing, receive more emphasis from males, while accidents (particularly fires) are apparently more salient in the mind of females.

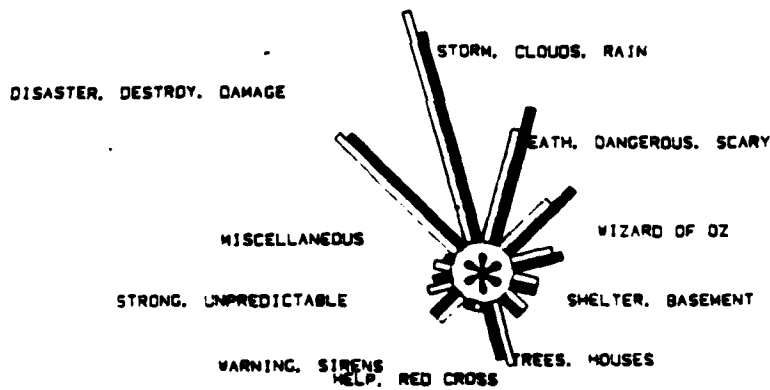
Females again think more intensively of the dangers, tragedies, troubles, crises, destruction and ruin which occur when disaster strikes. Another consistently stronger female preoccupation is with death, famine, pain, and disease. They also are more concerned with people, particularly those involved in disasters, such as those left homeless.

TORNADO

PERCEPTIONS AND EVALUATIONS

□ - BY MALES ■ - BY FEMALES

WINDS. BLOWING. TWISTER



			KANSAS, MIDWEST					
			M	F		M	F	
WARNING, SIRENS			157	175	WIZARD OF OZ			M F
watch			10	52	Wizard of Oz	181	238	
alert			-	10	Dorothy	129	186	
warnings			82	57	Toto	39	65	
siren			22	27		13	7	
emergency			43	18				
drills			-	11				
						DEATH, DANGEROUS, SCARY		
						321	431	
						death	175	159
						bad	15	21
						hurt	4	18
						injury	10	10
						dangerous	67	73
						fear	31	73
						scary	19	59
						frightening	-	19

A complete distribution of responses is shown in Appendix I. p. 18

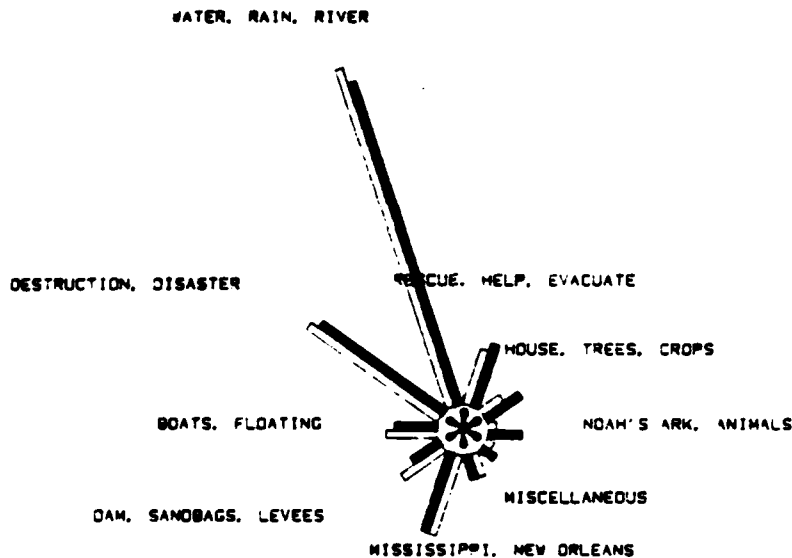
The image of a tornado is naturally similar for males and females in its main elements such as wind, storm, twister, and the resulting destruction and disaster. The groups also show close agreement with regard to areas that are most frequently damaged by tornadoes: Kansas, Iowa, the Midwest.

Men think more of emergencies and warnings, while women are more preoccupied with the dangerous and harmful consequences. Women also speak of fear and fear reactions, characterizing tornadoes as scary and frightening.

While men think of cars and property as vulnerable targets, women think of houses and homes. Men appear to be more aware of the power and unpredictability of the tornado and have a more intensive image of it as a twister; women mention more its speed. Women also associate tornadoes more with the story of the Wizard of Oz, particularly the figure of Dorothy.

FLOOD PERCEPTIONS AND EVALUATIONS

— BY MALES — BY FEMALES



	DEATH, DROWNING, DANGEROUS			M F			M F	
DAM, SANDBAGS, LEVEES	332	176	DEATH, DROWNING, DANGEROUS	362	384	NOAH'S ARK, ANIMALS	52	153
sandbags	35	58	death	160	146	ark	-	-
dam	76	98	drown,ing,s	108	163	Noah	19	88
levee,s	20	-	danger	44	62	Noah's Ark	13	10
dikes	15	-	loss of life, lives	22	-	animals	-	28
control	26	9	blood	10	-	cattle	13	-
walls	-	11	victims	13	6			
bridges	-	10						

A complete distribution of responses is shown in Appendix I, p. 19

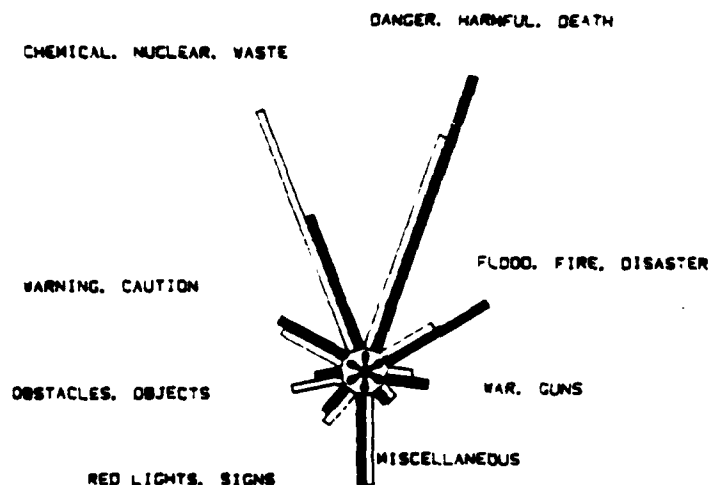
There is a very close similarity between males and females in their views of floods. Water and rain as the main source get the most attention, as well as the destruction and disasters which accompany floods.

Providing help is apparently more a concern of men, while assistance by such organizations as Red Cross is more salient in the minds of the women.

Again, women think more about the dangers such as drowning, while the men show more preoccupation with sandbags, levees, dikes, and other specific measures of control. Interestingly, women think more of Noah's Ark, people, and animals.

HAZARDS

PERCEPTIONS AND EVALUATIONS
 — BY MALES — BY FEMALES



CHEMICAL, NUCLEAR, WASTE	M	F
chemical	147	76
waste,s	180	39
nuclear waste	74	17
nuclear --	153	71
pollution	14	32
radiation	20	9
poison,s	15	66
water	97	55
electrical	31	25
man-made	10	-
food	10	-
gas	11	-
dump,s	16	-
contamination	14	-

CARS, DRIVING, SMOKING	M	F
OBSTACLES, OBJECTS	152	75
obstacles	32	30
holes	10	5
pits, pitfalls	18	-
ice	19	24
cliffs	13	-
golf	36	6
trees	10	-
construction	-	10
mountain,s	14	-

FLOOD, FIRE, DISASTERS	M	F
flood,s	33	34
weather	17	18
wind	15	21
disaster,s	-	19
natural	17	18
earthquake	11	34
rain	9	35
fire	81	160

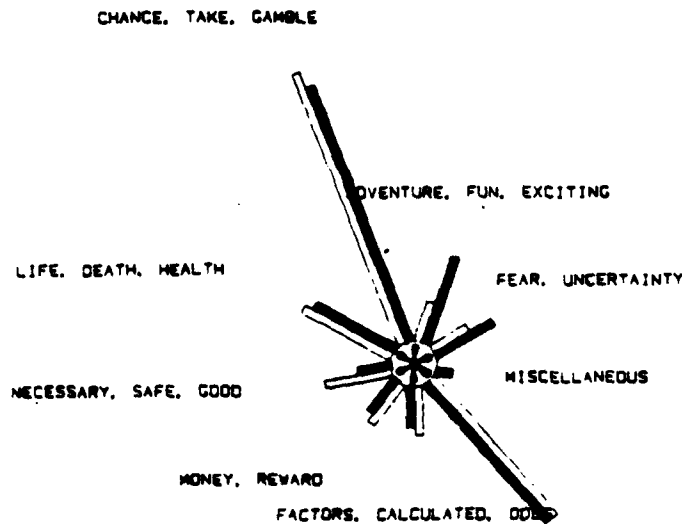
A complete distribution of responses is shown in Appendix I. p. 20

Females characterize hazards more emphatically as dangerous and risky. They think in terms of health hazards, pain and death. They also view hazards as sources of problems and troubles which are life threatening. Women also think more intensively of fires and such natural disasters as floods, earthquakes, wind and rain.

Males, on the other hand, tend to think of man-made hazards, military and technological problems, chemicals, nuclear radiation and waste, electricity, water contamination, etc. While males place more consideration on the potential accidents related to existing hazards, particularly those related to driving, females stress the hazards associated with smoking, drugs, alcohol, drunk driving and other bad habits.

RISK

PERCEPTIONS AND EVALUATIONS
 □ - BY MALES ■ - BY FEMALES



	M	F		DANGER, HAZARD, JOB, WAR		M	F	
NECESSARY, SAFE, GOOD	203	111	ADVENTURE, FUN, EXCITING	126	276	FEAR, UNCERTAINTY	132	222
good	25	34	adventure	9	74	fearful	9	53
caution	22	-	fun	41	65	scary	-	30
necessary	47	35	excitement	25	79	uncertain	25	14
worthwhile	-	11	challenge	39	44	unsure	14	13
safe	39	6	travel	-	14	bad	11	29
careful	8	13	venture	12	-	lose	42	17
help	19	-				failure	16	9
trust	10	-				unnecessary	15	-
important	-	12						
win	11	-						
worth	11	-						
benefit	11	-						

A complete distribution of responses is shown in Appendix I, p. 21

A complete distribution of responses is shown in Appendix I, p. 21

Males and females agree that taking risks is essentially synonymous with taking chances; the difference is that the males view risk taking much more in the sense of its being a game or gambling.

Similarly, both males and females think of the dangers and hazards associated with taking risks. The females feel that taking risks calls for bravery, daringness and courage. This may explain why women tend to associate risks with excitement, fun, challenge and adventure. Females also see risks as more fearful and scary and tend to judge it more as either good or bad than do the males.

The males see risks as a necessary part of life, business and everyday existence.

Summary: Perceptions and Evaluations of Disasters and Hazards by Males and Females

* The views of the males and females show substantially more agreement in the context of specific disasters such as floods or tornados than of such abstract issues as risks and hazards.

* While there is fundamental agreement between males and females on specific characteristics of natural disasters such as floods (e.g., water, rain, storm), there are considerable differences in the more subjective perspectives such as in the attention given to dangers, suffering, or destruction.

* Men consider risks and hazards more in the context of gambling and games. They see them as natural parts of life, reflecting the rationale that there is no success without certain risks.

* With regard to risks and hazards, women generally pay more attention to danger and dangerous consequences. In the same vein, they think more of courage and bravery.

* Women not only think of risks as sources of danger, fear and anxiety, but of excitement and fun as well. They show more positive and more negative evaluations, reflecting a view of risk-taking as a matter of choice.

* With regard to disasters, males think more of man-made disasters, war, nuclear war, technological and chemical accidents.

* Females pay consistently more attention to disasters and dangers affecting life, death, health, human sufferings, pain, famine and disease.

* Females also think more of tragedies, troubles and crises. They show more concern with destruction, ruin and casualties.

* Males show more preoccupation with helping, providing assistance and taking measures of control and preparedness.

* Females think more about homes and people, receiving assistance, and the role of Red Cross and other organizations providing aid.

* The issues examined in this domain demonstrate how the differences in perspective depend on the concrete versus abstract nature of the referent. While there are close similarities between the groups' views of floods and tornadoes, their views of risks and hazards are rather different because they depend on more subjective perspectives. (This is demonstrated numerically in the section on distance.)

Emergencies and Emergency Preparedness from Male and Female Perspectives

Compared to the natural disasters just examined, emergencies and emergency preparedness entail less tangible issues, less well defined referents.

While various types of disasters have historic precedents, the more contemporary concepts of emergency and emergency preparedness entail many new dimensions which may have consequences that go beyond our past experience. Therefore, public perceptions involving such new and complex issues and events are usually rich in individual and group variations.

Another variable generally responsible for rich perceptual variations relates to the affect-laden, existential importance of the subject. Emergencies and emergency preparedness entail dramatic situations of great importance, with the life and welfare of many people at stake.

While there are many superficial stereotypes which would support diverse expectations of how males and females are likely to face emergencies, it is useful to have empirically based insights into the actual scope and nature of male and female differences.

EMERGENCY

PERCEPTIONS AND EVALUATIONS

□ - BY MALES

■ - BY FEMALES

AMBULANCE, DOCTOR

DISASTER: FLOOD, FIRE

HELP, RESCUE, SHELTER

QUICK, HURRY, URGENT

DANGER, THREAT

WARNING, SIRENS, LIGHTS

MISCELLANEOUS

PANIC, FEAR

911, TELEPHONE

ACCIDENT, HURT, DEATH

	M	F		M	F		M	F
DISASTER: FLOOD, FIRE, WAR	821	601	PANIC, FEAR	140	214	QUICK, HURRY, URGENT	277	445
disaster	112	108	panic	86	78	quick,ly	63	78
situation	10	-	fear	26	52	now	30	31
crisis	73	72	chaos	8	14	immediate	17	40
weather	25	9	tension	10	-	hurry	25	77
natural	12	-	confusion	10	-	rush	23	21
tornado	46	35	scary,ed	-	25	fast	19	49
flood	86	57	scream	-	17	speed	7	10
hurricane	35	17	cry	-	10	run	10	38
earthquake	35	16	sad,ness	-	18	urgent,cy	19	28
storm	18	-				action	37	14
fire	199	168				priority	15	-
national	12	18				important	12	34
war	86	71				surprise	-	13
attack	17	8				sudden	-	12
bomb	-	10						
nuclear	30	-						
destruction	15	7						
bad	10	7						

A complete distribution of responses is shown in Appendix I, p. 22

In general, the males show more concern with the causes of emergencies and effective measures while the females think more of the urgent and immediate reactions.

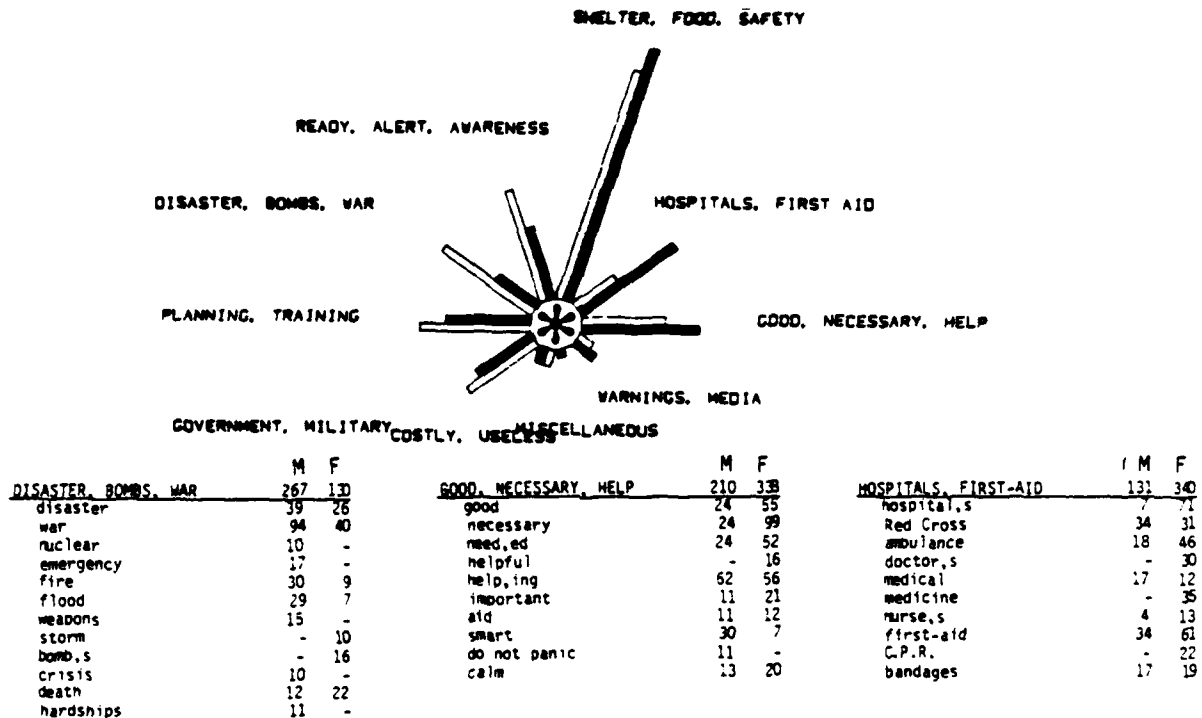
In thinking of the causes or contexts of emergencies men consider both natural and man-made disasters. Of the natural disasters floods, storms, tornadoes, hurricanes, and earthquakes receive consistently more attention from males than from females. Similarly, they also think more about war, both conventional and nuclear.

Males also place more emphasis on helping, planning, considering measures related to self-help and helping others. The females show a greater concern with receiving aid and care. Both males and females show a strong preoccupation with medical assistance, but on most items the female reactions are of higher intensity than the male.

Women stress the need for immediate, quick reaction, emphasizing urgency and speed. This is consistent with their stronger concern with dangers and fear reactions (fear, chaos, scare, scream, etc.). A heavier reliance on assistance is also conveyed by their attention to the use of the phone and calls for help.

EMERGENCY PREPAREDNESS

PERCEPTIONS AND EVALUATIONS
 ☐ - BY MALES ■ - BY FEMALES



A complete distribution of responses is shown in Appendix I, p. 23

The most dominant concerns of both men and women involve shelter, food, and other supplies. This focus is particularly strong among the women, who think more intensively of shelters and supplies in general. They also take a stronger stand on the issue of emergency preparedness as necessary, good and needed.

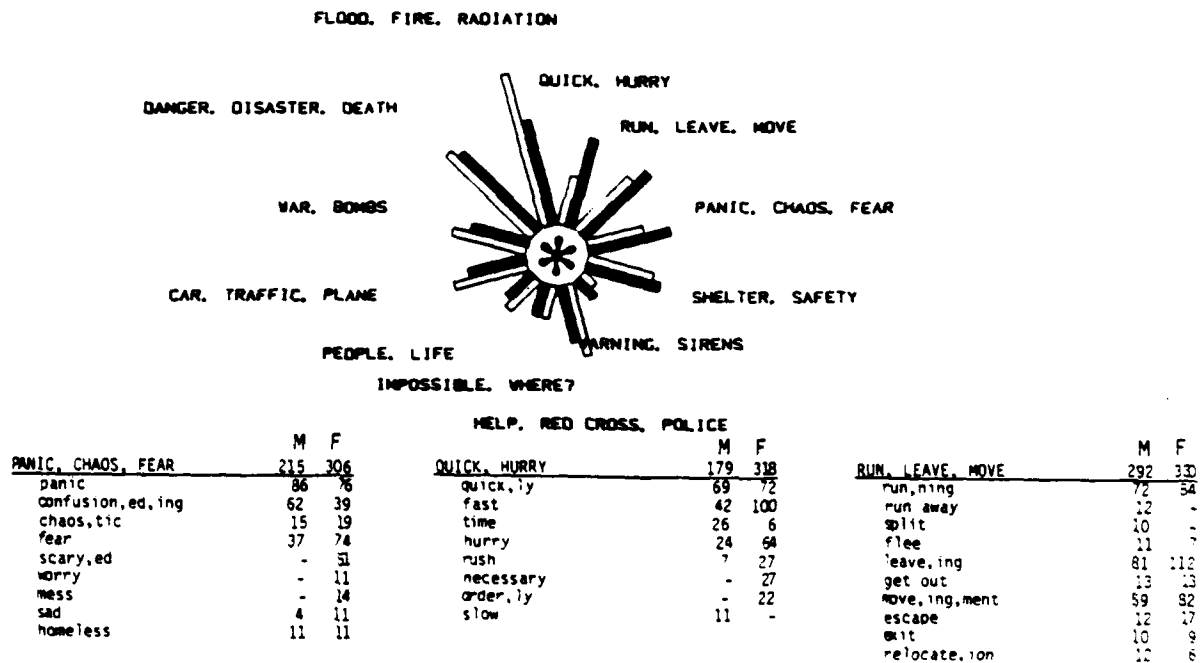
Men think more of the specific contexts calling for preparedness such as disasters, fire, war and other cataclysms. Their concern is with effective measures and preparations; they emphasize education, training and practice.

Men think somewhat more than women of alertness, readiness and other related dimensions of preparedness. In this vein they place more emphasis on civil defense and defense in general.

Women show intensive preoccupation with the medical dimension of preparedness, especially the hospitals, first aid, doctors, ambulances, and various other details of medical assistance.

EMERGENCY EVACUATION

PERCEPTIONS AND EVALUATIONS
 ☐ - BY MALES ■ - BY FEMALES



A complete distribution of responses is shown in Appendix I, p. 24

The male focus is stronger again on the reasons or specific occasions calling for emergency evacuation. Particularly strong attention is given to floods, fires, and other natural disasters such as tornadoes, hurricanes, earthquakes, volcanoes, etc. Similarly, the male respondents also show a stronger concern with war and nuclear attack.

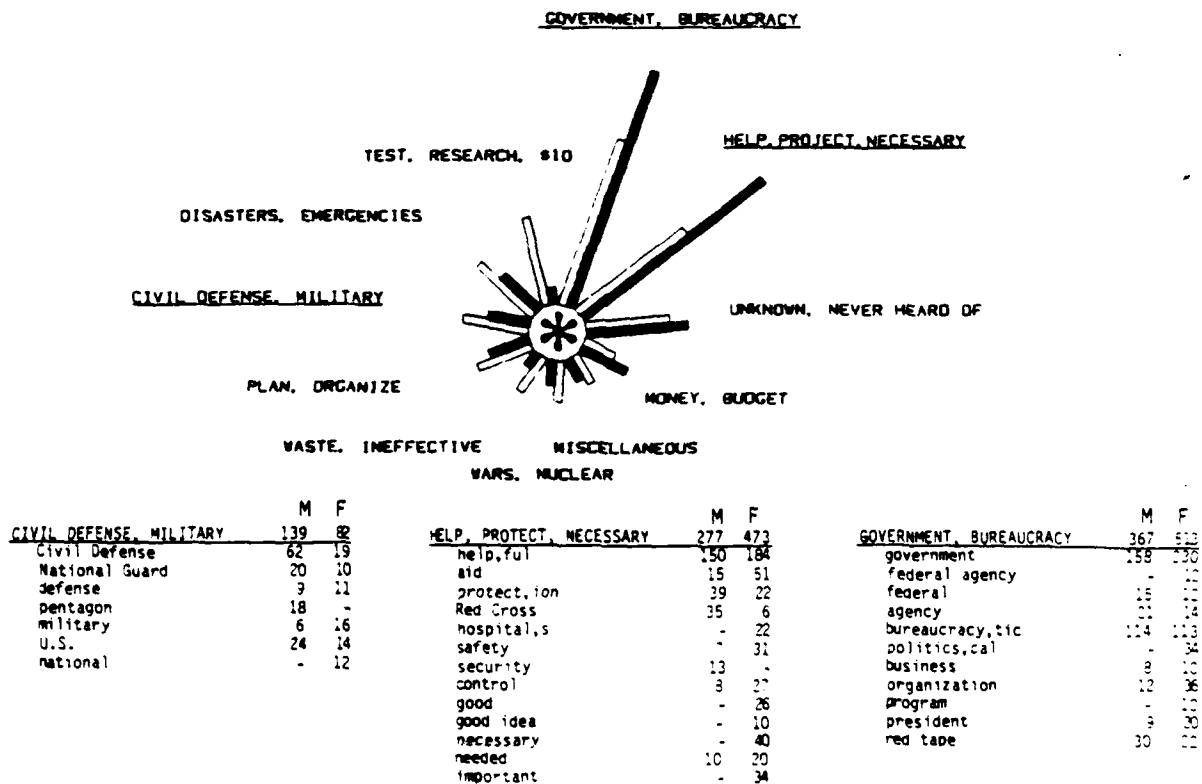
Females think more about shelter and safety in general. More specifically they show again the general disposition to stress quick, immediate reactions: run, flee, escape. They place more emphasis on speed: quick, fast, hurry, rush, etc. This may be partially related to their disposition to think more about danger and death. Or it may be a simple, spontaneous way of reacting rather than thinking of preparations, which is generally a stronger tendency among the males.

Cars, vehicles, traffic jams, and road blocks are details that come to mind more for males than females. Males think more about planning and the role of police and civil defense workers.

Both males and females speak of the confusion and panic involved in emergency evacuation, but the female reactions indicate more fear and worry. The women also have a somewhat more skeptical attitude about emergency evacuation suggesting that it is impossible and asking how and where it would be done.

F. E. M. A.

PERCEPTIONS AND EVALUATIONS
 □ - BY MALES ■ - BY FEMALES



A complete distribution of responses is shown in Appendix I, p. 25

Viewing FEMA as a source of help, aid and protection, women characterize it as very good, necessary, important and needed. The men also associate FEMA intensively with help, protection, and security.

Women strongly identify FEMA with the government, government organizations, and the president. Both men and women relate FEMA intensively to government bureaucracy and red tape.

Men associate FEMA more with disasters, emergencies, and floods, reflecting their tendency to address causes and specific problems requiring attention. In this same vein they think also more of war, nuclear war and civil defense. They pay more attention to planning and preparation and being alert.

A sizable group of males and females indicate that they are not familiar with FEMA, that they have never heard of it.

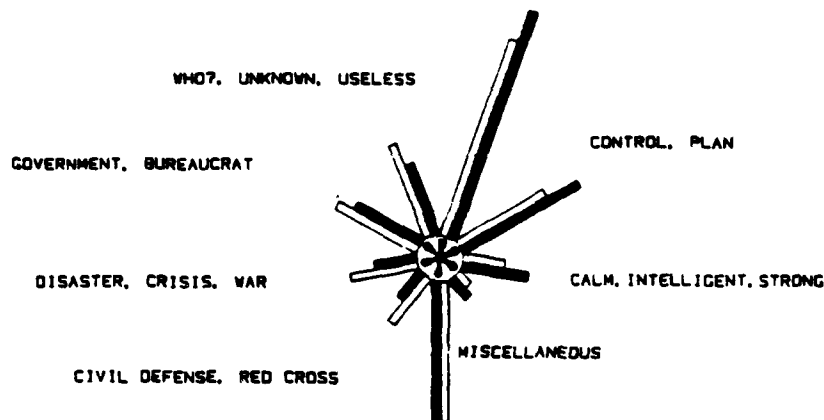
EMERGENCY MANAGEMENT OFFICER

PERCEPTIONS AND EVALUATIONS

□ - BY MALES

■ - BY FEMALES

BOSS, LEADER, PEOPLE



	M	F
CIVIL DEFENSE, RED CROSS	146	89
civil defense	52	10
military	31	21
Red Cross	13	17
National Guard	11	-
army	24	29
defense	15	12

HELP, SAFETY, NECESSARY	M	F
CALM, INTELLIGENT	105	168
calm	25	46
intelligent	-	12
smart	-	10
quick	7	11
power	19	-
alert	-	17
knowledge, able	20	34
tough	-	17
tough job	13	-
difficult	13	-
work,er	8	21

CONTROL, PLAN, RESPONSIBLE	M	F
control	22	31
in charge	22	37
plan,s,ning	25	37
authority	41	11
decision,s	3	16
direct,s	-	21
duty	-	12
regulate,ion	14	-
order,s	18	16
organize,d	-	19
organizer	9	12
responsib,ity	36	41
trained,ing	23	17

A complete distribution of responses is shown in Appendix I. p. 26

Both males and females see the emergency management officer as a leader, an official, a boss, someone associated with the police. He is considered as helpful, a source of protection and aid.

Women think of the EMO role in more general terms approving it more emphatically as important, good and necessary, and more in relationship to the government.

The women's image contains heavier elements of leadership: being in charge, in control, carrying responsibility. They place more emphasis on such personality attributes as being calm, responsible, and intelligent.

The men place more emphasis on such role characteristics as being bureaucratic and also having authority. Their primary concern is with the specific tasks and functions of the EMO. Along this line men think more of disasters, emergencies, and war. Also, they relate the EMO more specifically to defense, civil defense and the military.

Again, a sizable subgroup of both men and women convey that they are unfamiliar with the role and know little or nothing about it.

Summary: Perceptions and Evaluations of Emergencies and Emergency Management
by Males and Females

* In thinking of emergencies and emergency preparedness men show a stronger tendency to consider the context, the specific occasion producing the emergency.

* In this respect, men think more of specific disasters such as flood, fire, tornado, or of disasters and emergencies in general. They also think intensively about the possibility of war, conventional or nuclear, as well as about civil defense.

* Men also emphasize the specific measures called for by emergency situations. They speak of planning, preparation, training, education, and practice.

* Women show more concern with the consequences of emergency situations; they think more of dangers, fear, death, and destruction.

* Females tend to think more of shelter and safety, and the measures they consider are more general and reactive (run, flee, escape), with a stronger emphasis on quick and immediate reactions, speed and mobility.

* Women speak more of medical assistance and supplies. They emphasize outside help and the role of the government. Females are essentially more positive about protective measures in general, and stress their necessity and importance.

* The men look at emergency and preparedness in more specific terms; they also take a more critical approach. This is also true about their view of the government: the males emphasize the role of the government less, but attach to it more specific expectations and more critical attitudes.

* Women look at FEMA and the Emergency Management Officer as sources of assistance and help, with more general expression that they are important and needed.

* Men look at FEMA and the EMOs more specifically in the context of emergency measures. They expect effective measures, planning, training and implementation.

* A sizable subgroup of both males and females indicate that they are essentially unfamiliar with the role of FEMA and the EMOs. (We found that these respondents come mostly from the Midwest and the west coast.)

Civil Defense From Male and Female Perspectives

Public perceptions and attitudes have been found to be particularly complex and affect laden in the domain of emergency preparedness. Here questions of mass destruction and survival mix in various combinations with political beliefs and views regarding East-West relations, military strategy, disarmament, etc.

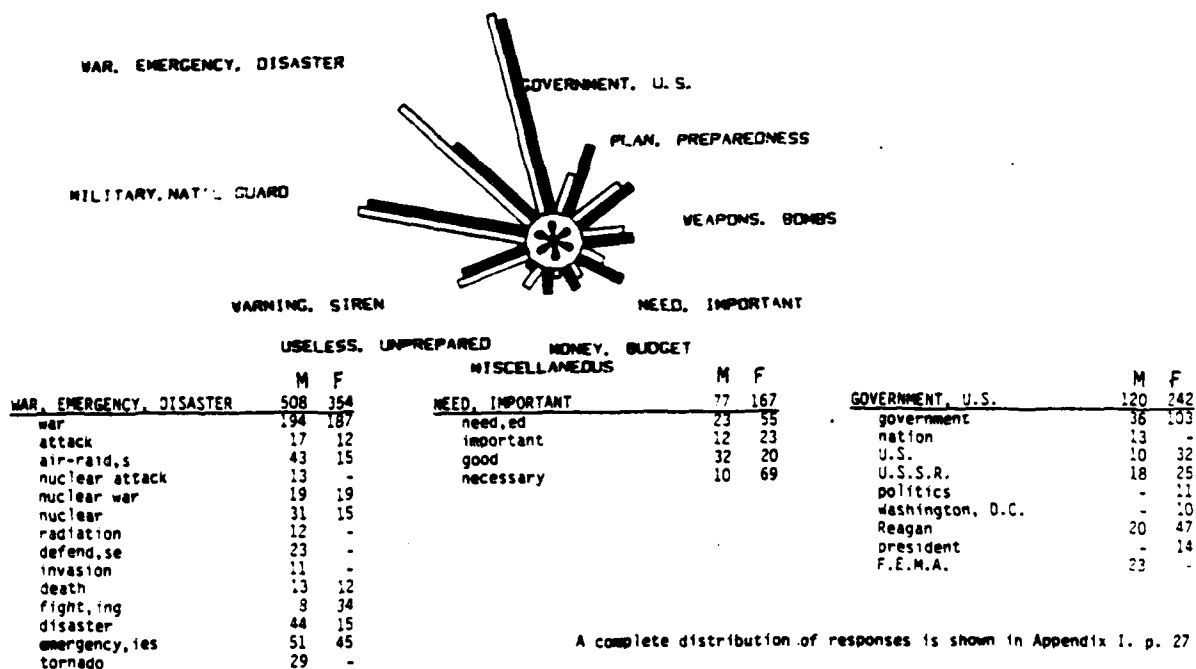
As we have observed, the public perceptions of specific civil defense measures, such as emergency evacuation or building blast shelters, depend relatively little on the technical qualities or performance of these measures. Public perceptions depend more on people's subjective views on such broad and complex issues as nuclear policy and East-West relations or their general approval or disapproval of civil defense.

Under such conditions it is particularly interesting to explore how people's perceptions and values related to civil defense are affected by their background and experiences influenced by age and sex. We have observed that age does make some difference along lines which could have been readily anticipated. The following analysis focuses on sexual identity, tracing the particular ways in which the male and female respondents differ in how they perceive and evaluate a few issues related to civil defense.

CIVIL DEFENSE

PERCEPTIONS AND EVALUATIONS
 □ - BY MALES ■ - BY FEMALES

SHELTER, PROTECTION, HELP



A complete distribution of responses is shown in Appendix I, p. 27

Women think of civil defense in classic military terms, mentioning the Army and other services. Men more than women think of such units as the National Guard and the Coast Guard. Women show more concern with guns and weapons. These relatively minor differences in focus reflect somewhat different experiences and perspectives.

Men, who are usually more preoccupied with the causes and nature of emergencies, think more about war in general as well as in the context of nuclear confrontation. In the nonmilitary context they also think more than the women do about disasters, tornadoes, and other emergencies.

Women are preoccupied with the ideas of protection, security and safety, while men show more interest in the various civil defense measures (evacuation, types of shelters) and also in the planning and preparation phases.

While somewhat less concerned with the details of civil defense, women show an intensive reliance on the government, including the president in general and President Reagan in particular. They more explicitly express positive attitudes in support of civil defense, describing it as needed, important, necessary.

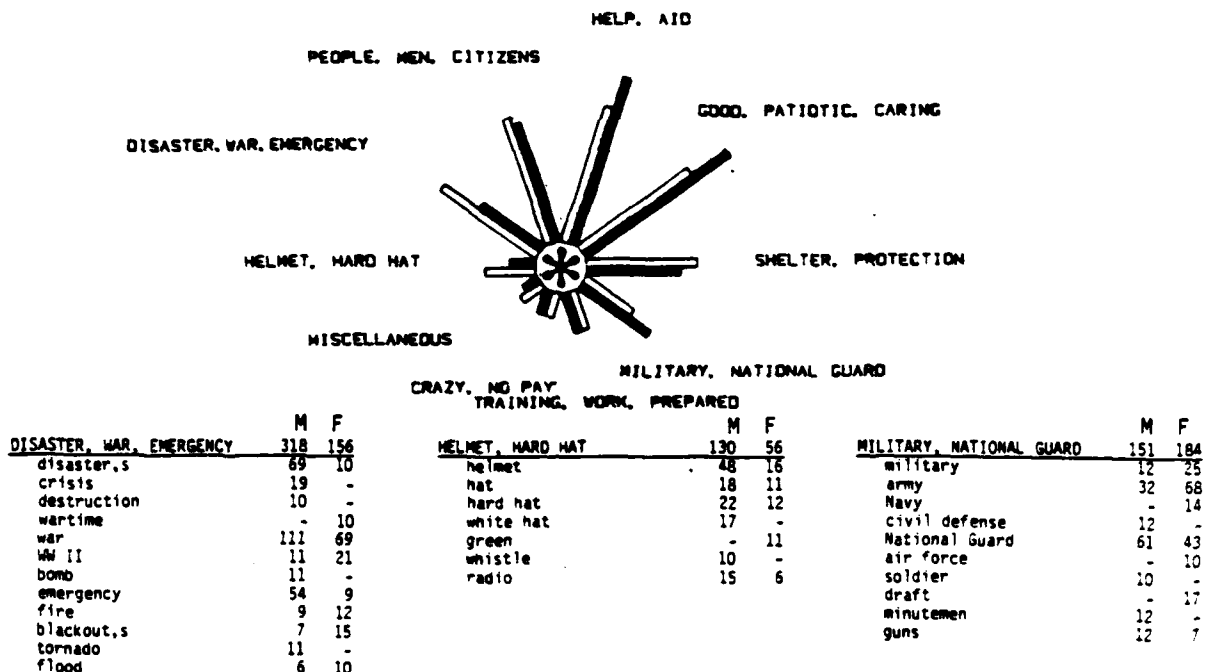
A small group of men express criticism and doubts in regard to the inadequate nature and/or the uselessness of civil defense.

CIVIL DEFENSE VOLUNTEER

PERCEPTIONS AND EVALUATIONS

□ - BY MALES

■ - BY FEMALES



A complete distribution of responses is shown in Appendix I. p. 28

Both man and women appreciate that the volunteers help, but women apparently see the volunteers themselves as the source of help and protection, while the men think of various types of help and services that the volunteers provide.

Again, women think in more conventional military terms, while men also include the National Guard, Minutemen, etc. The men also make more mention of people in general, of the neighborhood, the community, and the country.

Men think as usual of the specific occasions in which volunteers are involved: disasters, tornadoes, emergencies, and naturally war.

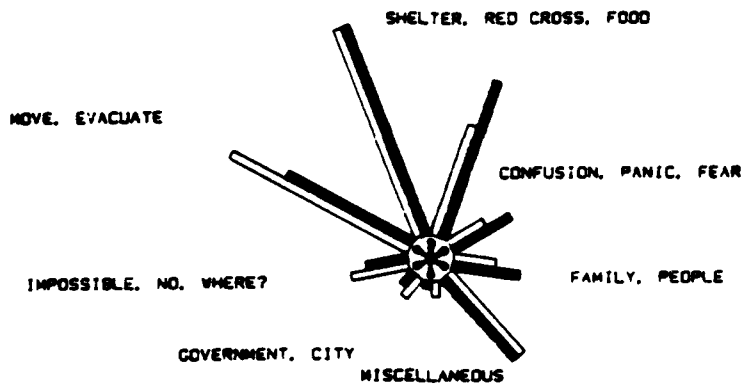
Interestingly, men picture the civil defense volunteer in more vivid detail: particularly the helmet, hard hat, white hat, and other aspects of appearance. Men acknowledge more the volunteer's positive attitude of being caring, concerned and willing. Women find their bravery, patriotism, and dedication more impressive.

CRISIS RELOCATION

PERCEPTIONS AND EVALUATIONS

□ - BY MALES ■ - BY FEMALES

DISASTER, EMERGENCY, WAR



	M	F		M	F		M	F
CONFUSION, PANIC, FEAR	103	164	MOVE, EVACUATE	508	353	SHUTTER, RED CROSS, FOOD	298	413
confusion	6	37	move,ing	247	233	shelter,s	46	115
chaos	19	-	movement	77	28	school,s	29	49
anxiety	-	12	evacuate,ion	77	29	church,es	23	41
lost	23	5	relocate	12	-	Red Cross	69	82
panic	11	16	leave	-	19	home,s	53	18
fear	26	37	transfer	11	-	temporary	23	10
crying	14	-	run, away	9	12	camp,s	-	15
scared,y	-	13	quick	13	5	underground	-	15
frightening	-	11	hurry	10	-	food	46	21
sad	-	21	travel	-	13	money	9	34
pain	4	12	transportation	14	7	place	-	13
			car,s	16	7			
			trucks	10	-			
			roads	12	-			

A complete distribution of responses is shown in Appendix I. p. 29

The men are preoccupied with the details of the move, specifically the evacuation. They mention particular vehicles, transportation, and other related problems.

The women are concerned with finding and providing accommodations, shelters, new homes, using schools, churches, camping facilities, and other usable places.

Safety and helping are dominant in the minds of both men and women. While the men focus on specific measures---planning, defense, civil defense---the women stress the necessity of relocation.

Disasters and emergencies in general receive about the same attention, but men list a number of specific contexts such as nuclear war, fire, hurricanes, etc. Floods receive more attention from women.

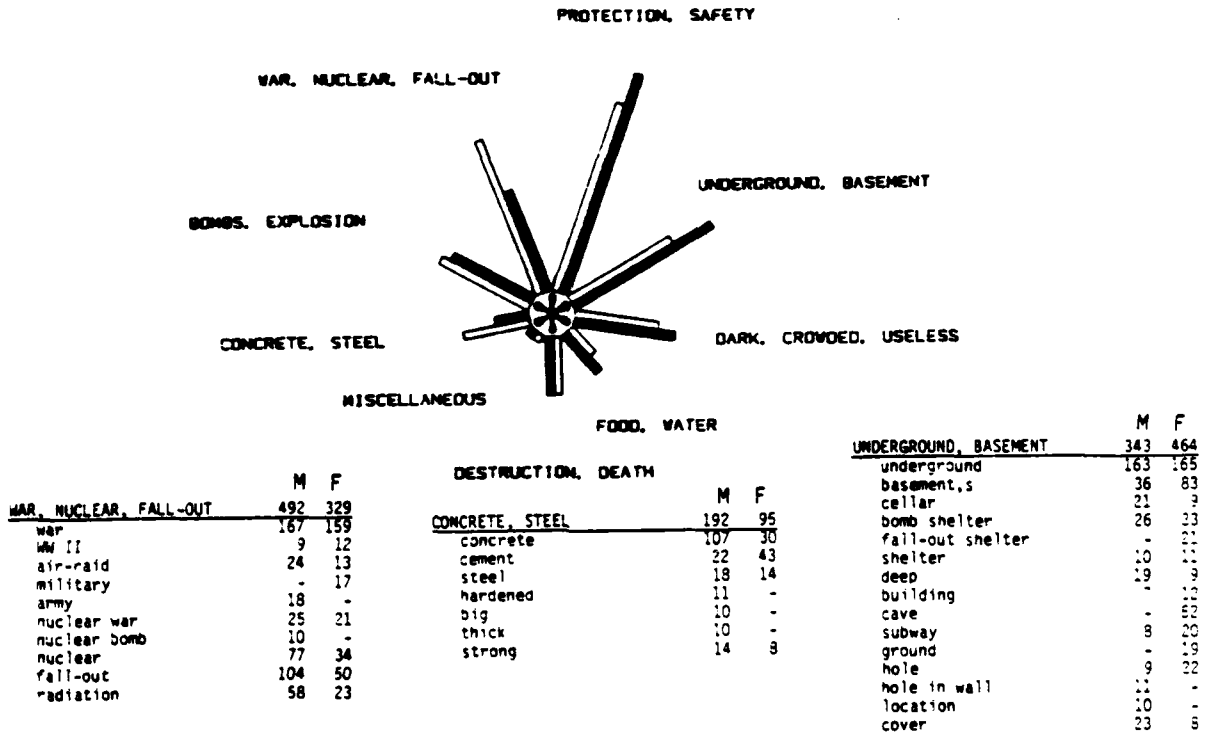
For the women crisis relocation evokes feelings of fear, anxiety, confusion, and other extreme emotional reactions. They also mention somewhat more the various categories of people affected: families, refugees, children.

Men show more skepticism as to whether crisis relocation is possible and practical, and where one would go.

BLAST SHELTER

PERCEPTIONS AND EVALUATIONS

□ - BY MALES ■ - BY FEMALES



A complete distribution of responses is shown in Appendix I, p. 30

Men relate the blast shelter more closely to war, particularly nuclear war. They see it also more in the context of fall-out and bombs and explosions.

Women consider the location of the shelter, underground, in the basement, in a cave. They place more weight on the shelter serving the purpose of safety, hiding, survival. They also think somewhat more about the people, family and children in this situation.

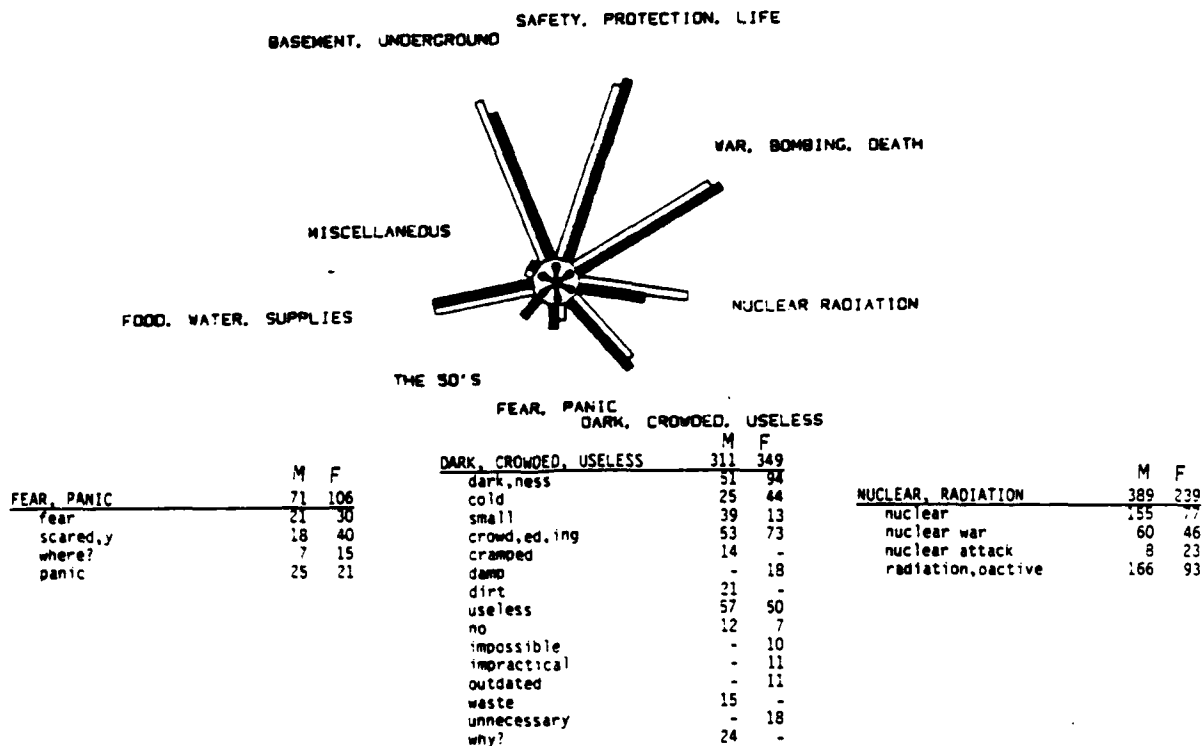
For women the image of the shelter is more unfriendly, appearing dark, cold, and crowded. They again refer more to fear. The men are more critical in considering the utility, effectiveness, expenses, and waste of building blast shelters.

Men consider the strength of the structure: concrete, steel, strength. Women think somewhat more about the necessary supplies, not only food and water but also canned goods, clothing, and light.

FALL-OUT SHELTER

PERCEPTIONS AND EVALUATIONS

□ - BY MALES ■ - BY FEMALES



A complete distribution of responses is shown in Appendix I. p. 31

In general on this subject males and females show above average similarities; the differences involve merely minor details.

Women think somewhat more about the safety and protection that a fall-out shelter would provide, while the men stress survival and the people and families.

Thoughts of war and bombing are dominant in the minds of both men and women; so are destruction and death. Men think more specifically of nuclear dangers and war and also more of radiation.

Men focus somewhat more on buildings in general and specifically on schools and concrete structures that could serve as fall-out shelters.

Women have again stronger imagery regarding the shelter: underground dwellings, basements, and bomb shelters, being dark, cold, damp, overcrowded. Women also express more fear and other emotional reactions. A number of reactions indicate doubts about the utility of the fall-out shelter.

To the women much more than the men fall-out shelters bring back memories of the fifties and sixties.

Summary: Perceptions and Evaluations of Civil Defense by Males and Females

- * In the context of most civil defense related issues and measures men show a stronger tendency to think of war, nuclear war, attack, nuclear radiation.

- * Men think more in terms of disasters and emergencies in general and of some specific natural disasters like floods and tornadoes in particular.

- * Women have safety, protection, and security intensively in mind. This focus may come partially from their generally stronger preoccupation with danger, destruction, and death.

- * Women generally convey intensive preoccupation with fear, anxieties, and affective reactions involving panic and confusion.

- * To women civil defense involves more military, defense, army, and other common military organizations and activities. The males also include civilians and the involvement of such organizations as the National Guard, Coast Guard, Minutemen, and volunteers.

- * With their greater expectations regarding protection and security, women look more to the involvement of the government, the president, and other government agencies.

- * Women emphasize that civil defense in general as well as its specific measures are necessary, important and needed.

- * Men think more of specific occasions and preparedness measures. They focus on planning and preparedness, training and practice. They are also more interested in the technical qualities of the measures.

- * Men commonly express more doubts about the effectiveness and practical value of the measures. They frequently convey a concern with expenses and waste.

- * Both men and women express a lack of familiarity with civil defense roles and organizations in such specific contexts as FEMA or the role of the emergency management officers.

- * Women think of volunteers in terms of their willingness to provide help and protection and their patriotism and bravery. Men focus on the volunteers' work performance.

Main Trends of Public Perceptions From Male and Female Perspectives

There is more agreement between males and females in their perceptions of specific disasters than of less tangible issues like emergency preparedness and civil defense.

Both in the context of natural and man-made disasters females are intensely concerned about dangers, life, death, human suffering, pain, famine, disease. They also think more about tragedies, troubles and human miseries, as well as destruction and loss of life.

Both in the context of natural disasters and war males show more preoccupation with help, providing assistance and effective preventive and protective measures in general.

Females think more about home and people and receiving assistance. They mention more often the Red Cross and other organizations specialized in providing help and assistance.

Women pay generally more attention to dangers and dangerous consequences. They approach risks with considerable ambivalence. They view risks as a source of danger and fear, as well as a source of bravery and excitement. Men think of risk and hazards as a natural part of life, reflecting the rationale that there is no success without certain risks.

With regard to disasters men think more about man-made disasters: war, nuclear war, technological hazards and chemical contamination.

In connection with natural disasters and other emergencies men show more preoccupation with the specific preventive and protective measures. They consistently emphasize planning and preparation, education and training.

Women think consistently more about shelter and safety. They think of reactive rather than preventive measures---run, flee, escape---and place more weight on immediate reaction, speed and mobility.

Based on their subjective views and representations men look at emergency preparedness measures in more substantive terms and also more critically. This is also true of their view of the role of the government, which they emphasize less but criticize more than do the women. Women attribute more importance to the government role in civil defense and emphasize the necessity and importance of protective measures.

Women look at the Federal Emergency Management Agency and the emergency management officer as a source of help and assistance, conveying the view that their roles are important and needed. Men view them more in the context of specific roles and functions. They stress planning, training, implementation of specific measures, etc.

Men see emergency management and civil defense in closer relationship to war and nuclear war. In all these contexts women think more of safety, protection and security. This is consistent with their general tendency to be concerned about dangers and fear, destruction and death. They show generally more affect-laden reactions and more concern with panic and confusion.

Civil defense implies for women more conventional type military operations with heavy emphasis on the army and other military organizations and activities. The men pay more attention to the civilian role and also include such organizations as the National Guard, Coast Guard, Minutemen etc.

Again men think more of specific emergencies and measures. They focus more on planning and preparedness and training. They show also more concern with the technical quality of the measures.

Men express also more doubts about the effectiveness and practical value of specific civil defense measures. They show also more concern with expenses and waste.

A sizable group of both men and women convey a lack of familiarity with civil defense, indicating that they have never heard of FEMA or of emergency management officers.

Women are particularly impressed by the motivation, bravery and patriotism of civil defense volunteers. Men think more of the volunteers' utility and performance.

Part 3.

EFFECTS OF ATTITUDES ON PUBLIC PERCEPTIONS

The previous sections presented differences between the views of males and females, and the views of students and adults. In the following, we examine how perspectives differ between people who have either a positive or a negative attitude toward a particular subject or issue. Our focus will be on selected issues related to emergency preparedness and civil defense. For example, we will examine in what particular ways people with positive attitudes on the Federal Emergency Management Agency (FEMA) differ in their subjective views from those with predominantly negative attitudes toward FEMA.

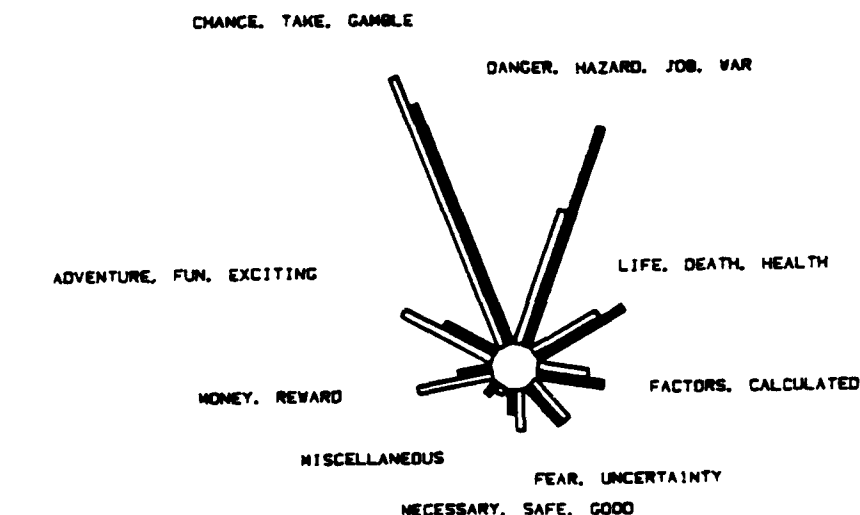
From a political angle, the main interest lies generally in the distribution of positive and negative attitudes (e.g., what percentage of the public is for or against a particular issue). And from a political angle these attitudes matter since democratic leadership depends on the representation of the opinions or sentiments of the majority.

However, from a managerial or educational angle there is a different focus of interest. Effective emergency management requires more than knowing the percentage of people who are for or against emergency preparedness. Beyond knowing whether a particular measure such as emergency evacuation or shelter building is popular, it is also desirable to know how to implement these measures. While some of these procedures may not always be the most popular, they are indispensable to saving lives. To implement an evacuation plan in the face of impending disaster, it is necessary to know how people are predisposed to view disasters, emergencies, specific preparedness measures, etc.

More specifically, it is desirable to know in what ways people with positive attitudes toward emergency preparedness measures differ from those with negative attitudes. For those who are positive: how much do they expect from the government? How intensive is their concern with their own safety? How much attention do they pay to the safety of others? How predisposed may they be to serving as civil defense volunteers, etc.? For those with negative attitudes: What are the roots of their criticism or skepticism? How much attention do they pay to feasibility or cost? Similarly, it is desirable to gain insights on how to overcome reservations and how to gain compliance with preparedness measures.

RISK

PERCEPTIONS AND EVALUATIONS
 — BY GROUPS WITH POSITIVE ATTITUDES ■ BY GROUPS WITH NEGATIVE ATTITUDES



	+	-
DANGER, HAZARD, JOB, WAR	285	505
dangerous	136	285
hazard	12	14
threat	-	13
unsafe	-	34
trouble	10	-
emergency	-	10
problem,s	4	15
area	-	15
warning	-	14
job,s	18	13
flying	9	11
war	65	50
nuclear war	-	12
nuclear	-	15
driving	19	10
sex	12	14

	+	-
ADVENTURE, FUN, EXCITING	205	121
adventure,s	47	25
fun	61	32
exciting,ment	54	42
challenge,ing	43	22

	+	-
NECESSARY, SAFE, GOOD	90	57
necessary	27	-
caution	-	18
safety	5	17
good	34	14
careful	11	8
help,ful	13	-

A complete distribution of responses is shown in Appendix I, p. 32

Risk is one of the few subjects on which our 400 American respondents showed an essentially equal split between those with positive attitudes and those with negative attitudes. The contrasting evaluations are also reflected by systematic differences in people's views, their subjective meanings. Those who evaluate risk positively differ in several important ways in their views of risk from those who evaluate risk negatively.

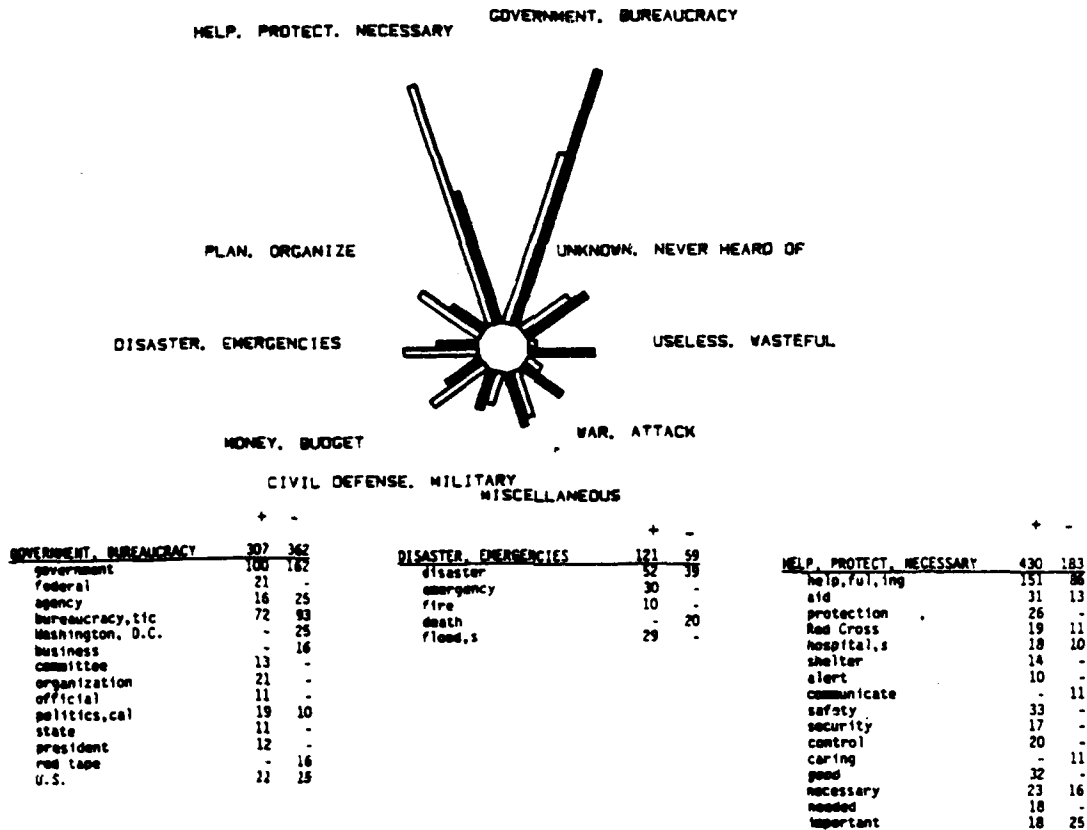
To both groups risk involves taking chances and gambling, but those who are positive about risk place more emphasis on choice, daring and courage. Those with predominantly negative attitudes toward risk think much more of the dangers, the unsafe elements of human existence, from sex to nuclear war.

For those with positive attitudes risk implies more adventure, fun, challenge, and excitement, and it is seen as good, necessary, and helpful. As these dispositions indicate, people with positive attitudes view risk more as an opportunity. This is also reflected by their emphasis on reward, benefit, and profit; they think of risk as a natural part of financial dealings.

Those with predominantly negative attitudes see it more as a threat and matter of life and death. They emphasize the negative, uncertain, and inescapable elements of risk.

F. E. M. A.

PERCEPTIONS AND EVALUATIONS
 — BY GROUPS WITH POSITIVE ATTITUDES ■ BY GROUPS WITH NEGATIVE ATTITUDES



A complete distribution of responses is shown in Appendix I, p. 33

Those predominantly negative about FEMA think more of government, with a focus on bureaucracy and red tape. Those who are positive think of FEMA more as an organization related to national issues, leadership, politics, the state, and the president.

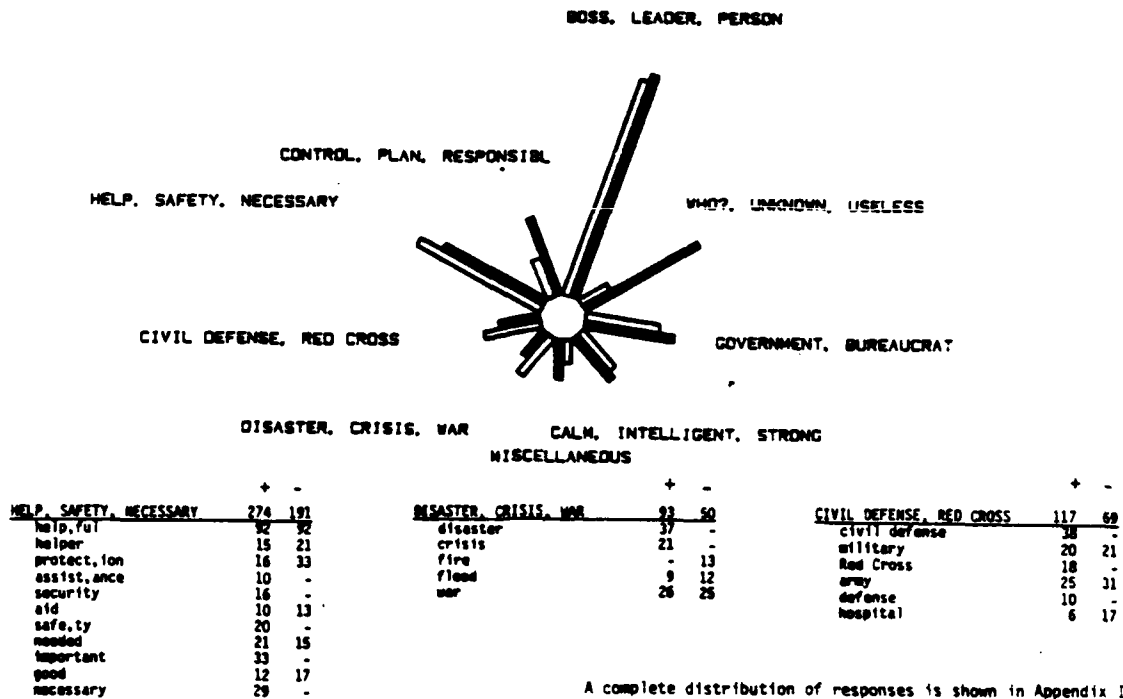
The positive group relates FEMA to more conventional disasters and emergencies such as floods and fire. The predominantly negative group, however, sees FEMA more in the context of war and nuclear war. Accordingly, they think of death.

The positive group emphasizes FEMA's role in providing help, aid and protection, as well as their involvement in planning, training, and preparedness. They also speak more of shelters, hospitals, information and other emergency needs. Civil defense and the role of the National Guard is somewhat more salient in the mind of the positive group. The positive group associates FEMA more with safety and security and describe it as good, necessary, and needed.

The positive group pays more attention to the budget and financial requirements. The negative group characterize FEMA as useless and wasteful. Both groups indicate that to some it is unknown, never heard of.

EMERGENCY MANAGEMENT OFFICER

PERCEPTIONS AND EVALUATIONS
 □ - BY GROUPS WITH POSITIVE ATTITUDES ■ - BY GROUPS WITH NEGATIVE ATTITUDES



A complete distribution of responses is shown in Appendix I, p. 34

The emergency management officer is seen more in relationship to the government by the negative group, and is seen more at a local, community level by the positive group.

While there is little difference between the groups in characterizing the EMO as helpful and a source of protection and security, the positive group stresses more that the EMO is good, important, necessary, and needed and relates the EMO more closely to disasters and crisis.

Both groups identify the EMO as a policeman, a boss and a leader. The positive group thinks of him more as an official and a manager. They speak of defense in general and more specifically of civil defense and the Red Cross. This group also assigns substantially more importance to the various functions of the EMO such as planning, direction, training and organization. They strongly emphasize the EMO's responsibility.

To both groups, the personal image of the EMO includes such positive attributes as being calm, intelligent, knowledgeable, and smart. The negative group apparently has nothing against the EMO on the basis of personality characteristics; they do, however, criticize the role as costly, wasteful, and useless.

Most of the themes examined in the domains of emergency preparedness and civil defense evoked either a predominantly positive or a predominantly negative attitude in most of the people examined. Therefore, the number of themes on which the following observations were made is relatively small, consisting of only three relevant issues. Nonetheless, the trends are consistent and are supported indirectly by insights gained in the context of the previous sections.

The positive groups see the efforts of emergency preparedness, as represented by the Federal Emergency Management Agency and the Emergency Management Officer, as instrumental in helping and providing much needed protection. The negative groups, however, view it as essentially useless.

The positive groups see FEMA and the EMO as representative of a government effort to provide public protection in the event of various emergency situations -- from natural disasters to nuclear threat. The negative groups view FEMA and the EMO as representative of governmental bureaucracy of which they are deeply critical and suspicious. These differences in attitudes and the related perceptions suggest that the actual source of contrast may not be specifics such as FEMA or EMOs, but is, more generally, the government's efforts to address emergencies through civil defense.

These conclusions seem to be supported by such observations as the generally positive, sympathetic evaluation of the Emergency Management Officer at a personal level, and the critical evaluation of their roles or government mission, its futility and wastefulness. Similarly, the negative group is much stronger in claiming unfamiliarity with the role of the Emergency Management Officer, which apparently does not prevent this group from taking a negative position.

Another major difference seems to relate to views on whether help and protection are possible and needed, or whether these efforts are useless and deceptive, if not outright harmful. These trends suggest that the observed attitudinal differences are deeply rooted in broad perceptual dispositions.

While the above differences relate to deeper dispositions which are characteristic of the groups' views of emergency management and government, the findings on risk suggest that some of these differences may have even deeper human roots such as a tendency to search for opportunities versus a tendency to be overwhelmed by dangers and threats.

DIFFERENT ATTITUDINAL PERSPECTIVES ON NUCLEAR SURVIVAL

Just as nuclear war means something terrible to everyone, peace is viewed as something good and desirable. Attitudes differ, however, in relation to the actual approach taken to avoid war and assure peace. In this study, people's views on the issues of nuclear survival and nuclear deterrence show conflicting attitudes, views and beliefs.

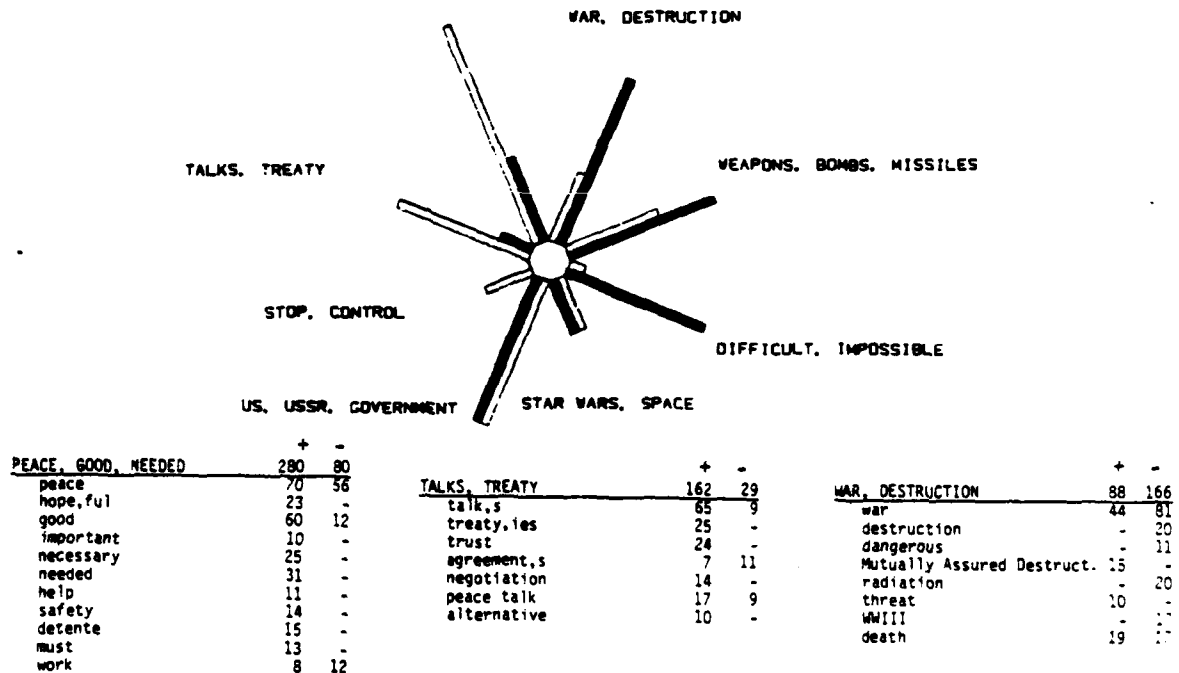
A deeper understanding of these different views and perspectives is of practical interest. As the previous results have shown, people's attitudes toward specific emergency preparedness and civil defense measures depend less on the objective qualities of these measures and more on people's general views of broader issues such as the feasibility of seeking protection, the government's role in providing protection, or the possibility of survival in the nuclear age.

In connection with nuclear survival it is of interest to examine the difference between those who expressed positive attitudes and those with negative, skeptical positions. Since our national strategy of assuring survival in the nuclear age has been based on the rationale of strategic deterrence, the subjective views of those who believe in deterrence and those who do not could be informative as well.

Two themes are considered here: Nuclear Deterrence and Nuclear War Survival.

NUCLEAR DETERRENCE

PERCEPTIONS AND EVALUATIONS
 — BY GROUPS WITH POSITIVE ATTITUDES — BY GROUPS WITH NEGATIVE ATTITUDES
 PEACE, GOOD, NEEDED



A complete distribution of responses is shown in Appendix I, p. 35

The positive and negative groups both view nuclear deterrence in the context of U.S.-Soviet relations. The positive group also thinks of nations and government in general, while the negative group thinks in terms of politics.

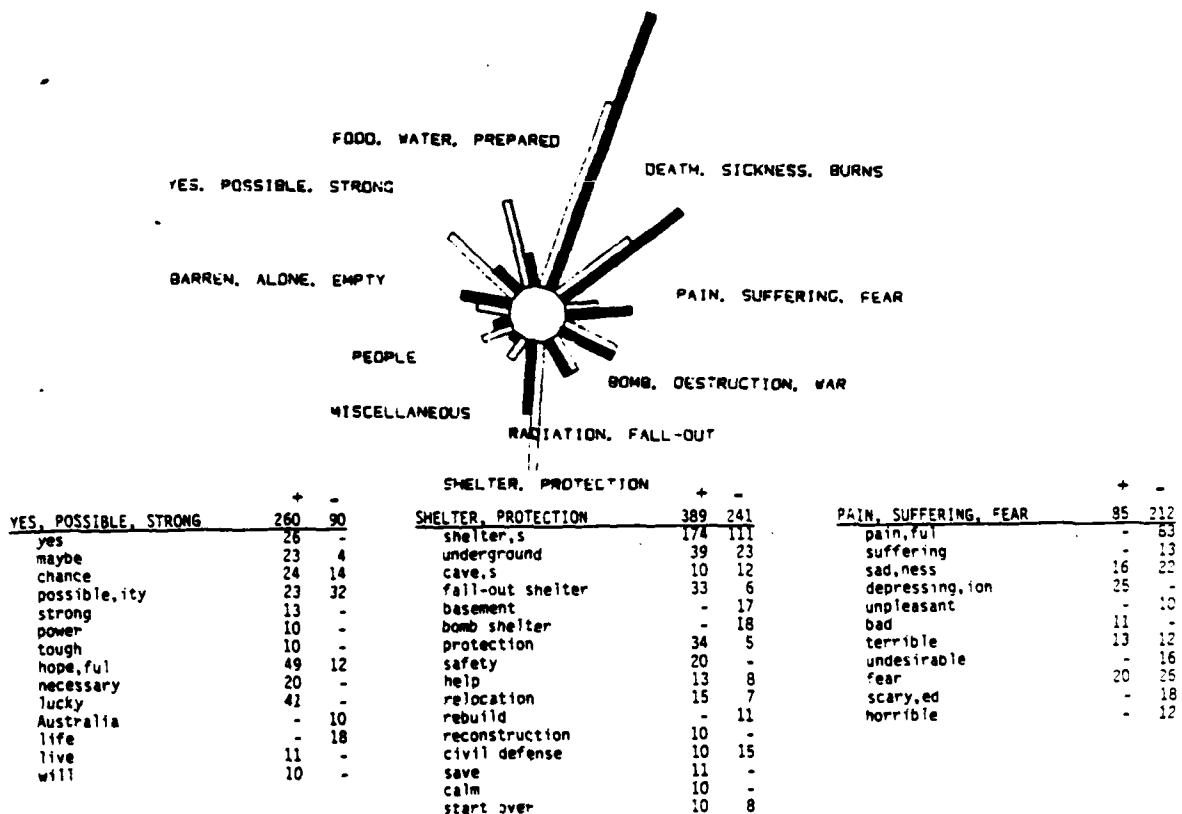
The positive group strongly emphasizes talks, treaties, negotiations, as well as trust. To them, peace appears to be the single most dominant issue, and nuclear deterrence is seen as good, necessary, important, and needed.

The negative group sees nuclear deterrence as more closely related to war, destruction, radiation, World War III, danger and death. While the positive group relates deterrence to defense, the negative group relates it more to bombs, missiles and warheads.

The negative group views deterrence with a great deal of criticism and skepticism; they see it as difficult, not possible, dangerous, scary, and wasteful. The main thrust of the negative group's reservations or objections is rooted in the assumption that deterrence entails a belligerent posture that is dangerous and ineffective. The positive group sees deterrence as peace-oriented and defensive and as a means for negotiation and trust.

NUCLEAR WAR SURVIVAL

PERCEPTIONS AND EVALUATIONS
 - BY GROUPS WITH POSITIVE ATTITUDES - BY GROUPS WITH NEGATIVE ATTITUDES
 IMPOSSIBLE, NO, UNLIKELY



A complete distribution of responses is shown in Appendix I. p. 36

The single most pervasive idea for the negative group is that survival is impossible, that no one or only a few would survive. This skepticism is conveyed by reactions which suggest that survival is unlikely, doubtful, not possible, hopeless, has no chance, is ridiculous, stupid, and nonsense. This group also thinks most intensively of death, disease, cancer, burns, mutations, and other human miseries associated with nuclear war.

The positive group shares this pessimism and doubt to a large extent, but still less than the negative group. The preoccupation with death and other miseries is intensive, but about half as strong as the concern shown by the group with negative attitudes about survival.

The predominantly positive group places more emphasis on protective measures---shelter, fall-out shelter, relocation, civil defense---and thinks more positively of protection, safety and help.

The more positive group also pays greater attention to essential needs and supplies such as food, water, and air. They also emphasize measures of preparedness, planning, education and training. This group is also more hopeful and thinks that there is a chance for survival. There is little optimism, but more an attitude of trying, thinking of possible options.

Nuclear deterrence and nuclear war survival represent two related issues; however, their relationship is viewed quite differently by the positive and the negative groups.

In both contexts, the negative groups express a strong rejection of viable options and convey an undertone of opposition and skepticism. While the groups with positive attitudes are not optimistic either, their focus of interest is drastically different. This is particularly noticeable in the context of nuclear deterrence.

The group with positive attitudes approaches nuclear deterrence as a way of assuring peace and defense. The heavy preoccupation of this group with peace and defense is in marked contrast to the intensive preoccupation of the negative group with war, destruction and dangers.

Similarly, while the positive group considers deterrence necessary and good, the negative group perceives nuclear deterrence as dangerous and ineffective.

The positive group also thinks more of the international dimensions of conflict and places strong emphasis on talks, negotiations and treaties. The negative group appears to be more preoccupied with the economic dimensions of financial and material investment and waste.

This essential difference in posture appears to be characteristic of the two groups' approach to nuclear war survival. While both groups show intensive awareness of the destructive nature of nuclear war, the group rejecting the possibility of survival shows an exclusive concentration on the horrors. The group expressing hope for survival, although guarded in its optimism, is apparently not willing to adopt a posture of passive resignation. Whether this group actually believes more in their psychological value or in their material utility, this group does think of civil defense measures such as relocation, shelters, as well as supplies, food, water, and medical assistance.

In both contexts, the negative groups show a preoccupation with dangers and threat, and are overwhelmingly pessimistic and critical. The positive groups, on the other hand, show a more active tendency to find solutions which may help to avoid or reduce the negative consequences of nuclear war.

DIFFERENT ATTITUDINAL PERSPECTIVES ON STRATEGIC DEFENSE OPTIONS

Although the subjects discussed in the following may fall beyond the immediate realm of emergency preparedness concerns, the public's contemporary conceptualizations are valuable from the angle of emergency management and administrative organization. The project director included them in the present study based on two main considerations.

One main reason is that the President's strong commitment to finding a strategic alternative to deterrence based on mutually assured destruction represents an historic move which is likely to have strong civil defense implications. Although full recognition of the implications of the President's Strategic Defense Initiative in the field of civil defense will take some time, the close connection will soon become increasingly apparent.

A second consideration relates to our findings that in the public mind subjects are not separated by strict boundaries or organized into compartments. For example, public perceptions of specific civil defense measures like crisis relocation or shelter building are inseparable from people's views of nuclear war and East-West conflict. Similarly, public attitudes toward civil defense are likely to be heavily influenced by the public views related to the Strategic Defense Initiative.

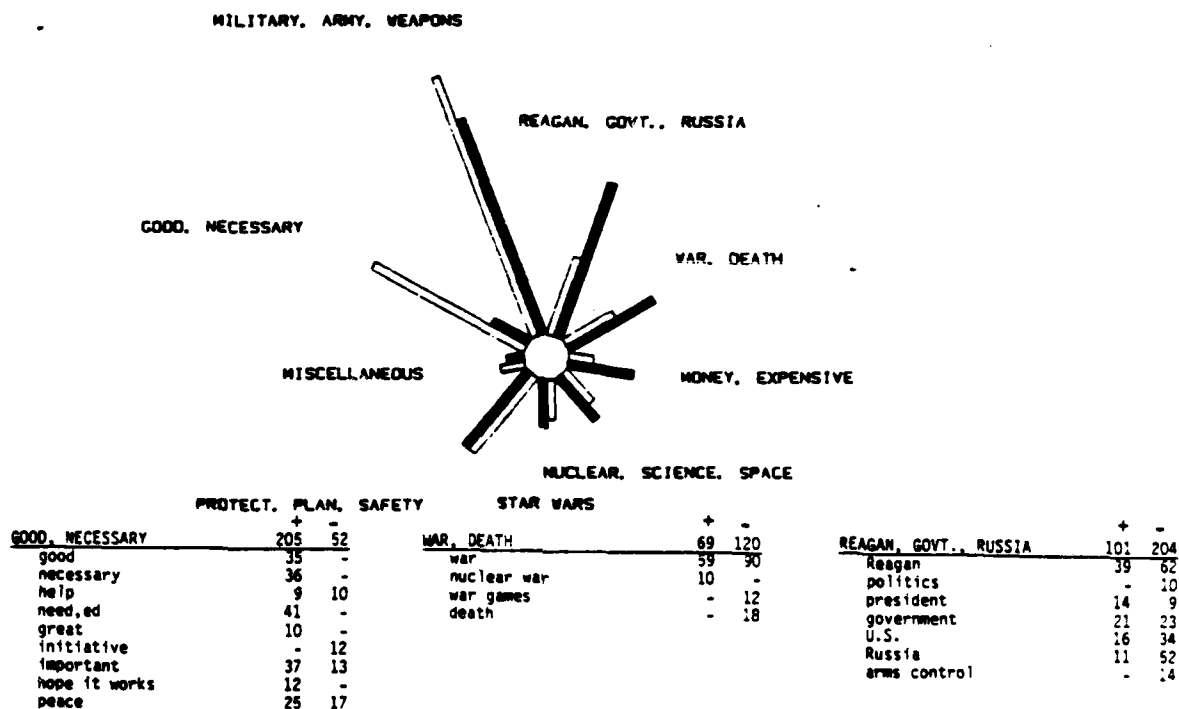
The Strategic Defense Initiative aims to shift direction from competition in the arms race to a concentration on high technology defense. Such a shift could increase the importance of civil defense and provide for it a more congenial atmosphere and appreciation. These developments are likely to provide important boosts to public readiness for volunteering and self-help in the domain of civil defense.

These changes are likely to offer FEMA new opportunities to tap manpower resources and use volunteers more extensively and effectively. To achieve this goal it will be increasingly important to relate to the American public effectively by taking people's actual views and motivations into careful consideration. In the pursuit of these objectives deeper insights into the public's perception and understanding of the SDI and other related notions can be of considerable practical value.

The four themes discussed here are Strategic Defense Initiative (SDI), Star Wars Program, Laser Beam Missile Defense, and High Tech Nuclear Defense.

S. D. I.

PERCEPTIONS AND EVALUATIONS
 — BY GROUPS WITH POSITIVE ATTITUDES — BY GROUPS WITH NEGATIVE ATTITUDES



A complete distribution of responses is shown in Appendix I. p. 37

For the positive group SDI has a closer relationship to defense, and to the Air Force, Army and Navy. To the negative group SDI is more closely related to the bombs, submarines, guns and the military in general, suggesting a more generic militaristic, aggressive tone. This is also reflected in their greater emphasis on war, war games, and death.

The negative group places more emphasis on Reagan, politics, the U.S., and Russia. Along this line, they also speak of arms control which the positive group does not mention at all. To the negative group SDI suggests something large-scale and grandiose, as indicated by their emphasis on plans and systems in general.

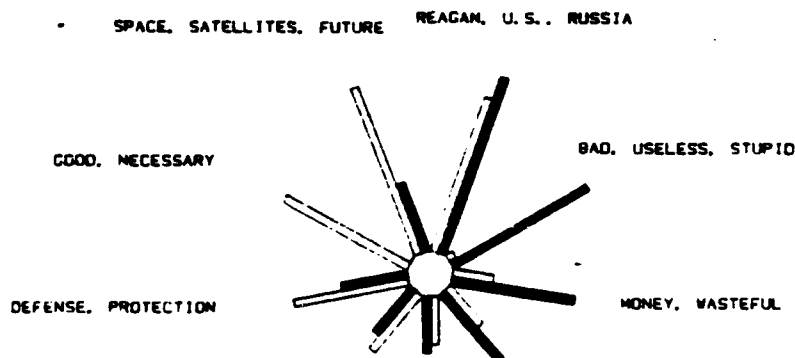
To the positive group SDI conveys the idea of protection, safety, strength and power. They also view SDI more in the context of peace and emphasize that the SDI is good, necessary, important, and needed.

The negative group relates SDI more to computers, nuclear and space matters, and sees a closer connection between SDI and Star Wars. This group places more emphasis on the expenses associated with SDI; they characterize SDI as expensive, stupid, and a waste.

In general, while both groups think of SDI in terms of the military the focus is quite different. The positive group stresses defense, strength, protection, and safety, and considers the SDI as good and necessary. The negative group is more concerned with bombs, plans, war and death. They also express more concern with the Soviet reaction and view the SDI more as a political move that is both belligerent and expensive.

STAR WARS PROGRAM

PERCEPTIONS AND EVALUATIONS
 — BY GROUPS WITH POSITIVE ATTITUDES — BY GROUPS WITH NEGATIVE ATTITUDES



		LASERS, TECHNOLOGY, NUCLEAR		MILITARY, WAR, DEATH			
		+	-	+	-	+	-
DEFENSE, PROTECTION		195	104	GOOD, NECESSARY		243	0
defense		128	51	good		116	-
SDI		-	12	good idea		12	-
power		-	10	great		16	-
protection		24	20	necessary		21	-
deterrent		19	-	yes		24	-
peace		9	11	possible		34	-
safety		15	-	hopeful		10	-
				helpful		10	-
				ENTERTAINMENT, T.V.		MONEY, WASTEFUL	
						71	193
						money	32 34
						waste,ful	- 60
						expense	- 15
						expensive	29 47
						cost	10 -
						costly	- 23
						taxes	- 14

A complete distribution of responses is shown in Appendix I. p. 38

The two groups give Star Wars contrasting evaluations. The group with negative attitudes sees the Star Wars Program in closer relationship to the military, missiles, war, destruction, and death. To the group with positive attitudes Star Wars implies a program aimed at defense, protection and safety.

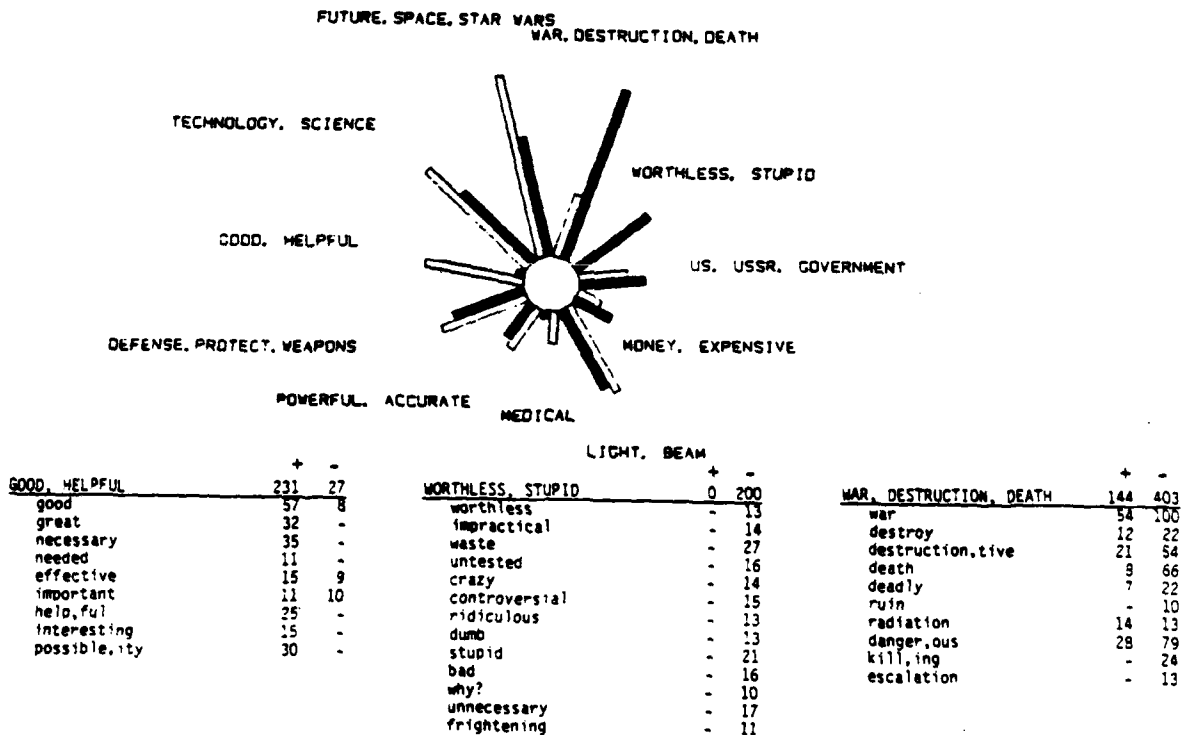
To the positive group Star Wars is good, great, a good idea, necessary, possible, hopeful and helpful. This group emphasizes the foundation of the Star Wars program in lasers, science, and high technology. They also emphasize space, outer space, satellites, space shuttle, and the future.

The group with predominantly negative attitudes characterizes the Star Wars Program in intensively negative terms as unnecessary, stupid, bad, dangerous, dumb, foolish, crazy, scary, unnecessary and idiotic. They also place more emphasis on money, and describe the Star Wars Program as wasteful, expensive, and costly.

Although both groups associate Star Wars with President Reagan, the critical group places slightly more emphasis than the positive group on U.S.-Soviet relations and on government/politics in general.

LASER BEAM MISSILE DEFENSE

PERCEPTIONS AND EVALUATIONS
 --- BY GROUPS WITH POSITIVE ATTITUDES ■ BY GROUPS WITH NEGATIVE ATTITUDES



A complete distribution of responses is shown in Appendix I, p. 39

In the context of laser beam missile defense, both groups speak of science, technology, and Star Wars. The positive group places particularly heavy emphasis on the future and thinks more of space and outer space, satellites, and development.

The negative group sees laser beam missile defense much more in the context of war, destruction, and death. They are also preoccupied with the dangers involved, escalation, and arms build-up. While both groups speak of defense, the positive group emphasizes protection and safety.

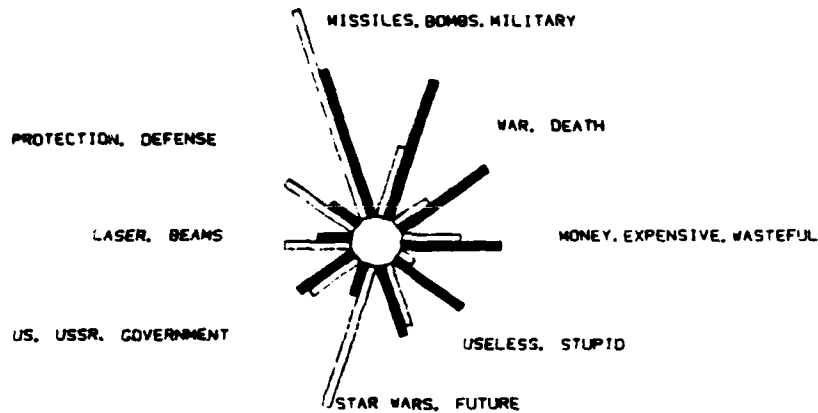
Technical details such as light, beam, cut, power, and accuracy receive similar attention from both attitudinal groups. There is also considerable agreement that the system is expensive. Nonetheless, these details are placed in contrastive frameworks of evaluation.

The positive group views the system as good, great, necessary, helpful, possible and interesting. The negative group characterizes the system as stupid, wasteful, ridiculous, dumb, worthless, and impractical. They also convey concerns with the deadly, destructive nature of the system.

Both groups speak of Reagan, but the negative group places more emphasis on the U.S. and U.S.S.R.

HIGH TECH NUCLEAR DEFENSE

PERCEPTIONS AND EVALUATIONS
 --- BY GROUPS WITH POSITIVE ATTITUDES
 --- BY GROUPS WITH NEGATIVE ATTITUDES
 COMPUTERS, SCIENCE



	GOOD, NECESSARY, HOPE			GOOD, NECESSARY, HOPE			USELESS, STUPID	
	+	-		+	-		+	-
PROTECTION, DEFENSE, SAFETY	203	70	GOOD, NECESSARY, HOPE	359	68	USELESS, STUPID	39	192
protection	58	22	good	59	39	useless	-	28
defense	39	20	good idea	15	-	unnecessary	-	30
SDI	11	-	necessary	76	-	bullshit	-	13
safer	16	-	needed	45	16	difficult	-	20
safety	46	12	help	21	-	foolish	-	20
security	19	-	important	17	-	confusing	10	-
secret	-	16	effective	-	13	impossible	9	10
prepared	14	-	now	10	-	impractical	-	13
			a must	12	-	none	-	12
			hopeful	37	-	stupid	-	14
			peace	12	-	destabilizing	-	-
			clean	10	-	scary	10	10
			better	11	-	hard	10	-
			possible	23	-			
			medicine	11	-			

A complete distribution of responses is shown in Appendix I, p. 40

HIGH TECH NUCLEAR DEFENSE

The group with positive attitudes toward high tech nuclear defense places particularly strong emphasis on high tech capabilities, particularly on computers, radar, satellites, and generally on advanced science. They also mention SDI which is not considered by the negative group.

The positive group sees these high tech capabilities, particularly lasers and particle beams, as providing a foundation for defense, protection, safety and security. They evaluate high tech nuclear defense very positively, characterizing it as necessary, good, needed, possible, important, and as a source of help and peace.

The negative group mentions certain high tech capabilities as well but pays much less attention to them. Interestingly, they heavily emphasize the military, weapons, bombs, missiles and planes. More importantly, however, this group views high tech nuclear defense in predominantly negative terms -- useless, stupid, scary, unnecessary, expensive, and wasteful. In agreement with this focus this group thinks more of war, death, dangers, threat, radiation, killing and destruction. They also think more about President Reagan and about the two competing world powers, reflecting a stronger political focus.

The four strategic defense related themes reviewed in this section represent a particularly interesting case from the angle of effective management and public communications. All four represent possible candidates for communicating the President's historic concept to the American public. And although they sound quite different, they have essentially the same referent. All of them are actually used or are being considered as a label for a defensive system which the United States is planning to develop based on its advanced technological capabilities.

Certain consistencies can be found in the positive and the negative groups' views of the four themes examined. The focus here is on the dominant perceptual trends, independent of obvious variations in use or denotation conveyed by the different labels. As the results show, the groups with positive attitudes think more intensively of peace and defense while the groups with negative attitudes think more of military, weapons, and bombs. To the positive groups these concepts inspire the ideas of protection, safety and strength. In this context the negative groups envision nuclear confrontation, danger and threat. While the positive group shows more concern with U.S. security, the negative group shows relatively more concern with Soviet reactions and U.S.-Soviet relations. The positive group considers the use of advanced technological capabilities for defensive purposes to be beneficial and necessary; the negative group considers these efforts idiotic and wasteful.

While the above summary is helpful in relating the overall positive and negative groups' views, it may create the impression that it makes no difference which label is used. It is true that for those who either strongly support or strongly oppose the defense idea, the label makes relatively little difference, but for a rather sizable group it does.

Using a seven unit rating scale, respondents (n=171) were asked to indicate their attitudes toward a given theme. The results show that the largest portion of respondents evaluated the Strategic Defense Initiative positively (73 positive, 40 neutral, and 58 negative). In contrast, the largest portion of respondents evaluated Star Wars Program negatively (79 negative, 40 neutral, and 52 positive). Furthermore, a closer look at the distribution of the ratings indicates that about half the respondents (n=82) evaluated the Strategic Defense Initiative more positively than they evaluated Star Wars. Only a relatively small group (N=32) rated Star Wars more positively.

Although the media is inclined to believe that it makes no difference which label is used, our data indicate that psychologically it makes a substantive difference. In terms of simple positive and negative evaluations the term "Strategic Defense Initiative" carries a more positive meaning while "Star Wars" adds a more negative connotation to the idea of strategic defense.

In terms of more specific perceptual details, a comparison of the response distributions to these two different concepts offers additional insights. The Strategic Defense Initiative conveys more the idea of peace, protection and safety. It is less affected by associations with movie-based

science fiction. As a result it is not likely to conjure up as many negative ideas such as wasteful and expensive or criticisms of being stupid, foolish, and dangerous.

A comparison of the four themes suggests that the term "High Tech Nuclear Defense" could offer a particularly effective concept to communicate the innovative idea of a strategic defense system. The high tech label is associated more with advanced U.S. technological capabilities of which people are aware and appreciative. The ideas of protection, safety and defense are also solidly anchored in this awareness. Its foundation in realistic technical capabilities---computers, radars, satellites, lasers---avoids the more fictional components conveyed by Star Wars. Similarly, its focus on defense and protection counteracts the impression of aggressiveness and belligerence conveyed by the idea of Star Wars.

These comparisons underscore the importance of selecting suitable terms which communicate the intended idea to people whose support and active involvement is critical to emergency management. The need for effective communications and the proper choice of labels is particularly critical in the case of a truly new and revolutionary idea.

MAIN TRENDS IN PERCEPTIONS BY GROUPS WITH DIFFERENT ATTITUDES

The results of this section show how people with positive attitudes on selected issues differ in their dominant views and perspectives from people with negative attitudes on those issues. The differential perspectives identified involve deep dispositions to look at issues in particular ways, ways which influence what people may choose and do.

Democratic politics depends on knowing public attitudes (e.g., whether and how many people approve or disapprove a particular program, issue or alternative), in order to make policy, avoid unpopular decisions and to be (re)elected. Management also needs to know public attitudes, but in order to effectively communicate and reach people through certain programs and messages they must understand the dominant trends of perceptions which influence attitudes as well as behavior.

In the domain of emergency management we compared the positive and negative groups on representative organizations (FEMA) and roles (EMO). The results show that the positive groups sees them as helpful and useful, and count on their performance in relationship to both natural disasters and war. The negative groups focus more on civil defense related performance and considers them wasteful and useless. This group appears particularly sensitive to and/or critical of the role of the government, expressing concern with red tape and bureaucracy. While the negative group is positive about certain personal characteristics of the Emergency Management Officer, they are intensively apprehensive about his function and his ability to provide guidance and protection. At the same time, these are precisely the functions which appear particularly valuable from the angle of the positive group. In light of somewhat analogous differences observed in the context of risks it appears that some of these differences may tie in with deeper human dispositions. For example, some people are predisposed to be more preoccupied with the darker alternatives of life involving dangers and threats, while others are more motivated to search for solutions and positive alternatives.

This differentiation may have further applicability in explaining people's contrasting views of some of the nuclear issues such as deterrence and survival. On these highly affect laden and complex issues the positive and the negative groups show sharply contrasting perceptual trends and perspectives. While the positive groups think of peace and defense the negative groups are preoccupied with the dangers of war and destruction. The positive groups expect and trust government support; the negative groups view the government's involvement not only as useless but as potentially harmful. Our present concern is with offering timely information on those differential perspectives which are relevant from the angle of emergency management. As the results show, these perspectives interfere with the perceptions of not only single isolated topics but a host of subjects. This means that there is considerable parsimony and economy in the information. Once the nature and implications of these perceptual trends are recognized, management can focus its attention on important trends rather than wasting attention on isolated details.

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REGIONAL AND DEMOGRAPHIC VARIATIONS IN PUBLIC
PERCEPTIONS RELATED TO EMER. (U) PITTSBURGH UNIV PA
UNIV CENTER FOR SOCIAL AND URBAN RESEARCH..

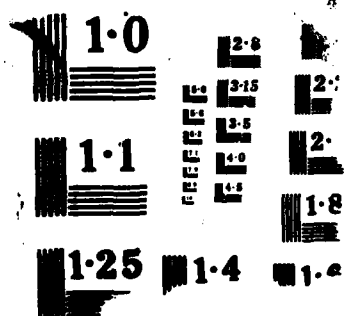
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The findings presented on the perception of the four strategic defense concepts confirm the above conclusions. Furthermore, beyond the specific results found on the different perspectives of the positive and negative groups, the results illustrate important variables which are generally poorly understood.

The first relates to the observation that the positive and negative groups show similar perceptual trends in the context of all four of these rather differently sounding labels ranging from Star Wars to High Tech Nuclear Defense. While this supports the previous observation that people's perceptual trends show a high degree of consistency across several related subjects or issues, it may be somewhat misleading. For example, some may tend to believe that the individual issues or specific labels may not really matter.

Yet the empirical evidence presented supports the opposing conclusion. While the views of hard core opponents and supporters may not vary greatly from label to label, views may weaken or intensify depending on the term used. The use of the Star Wars label detracts from support and intensifies opposition even with people who are rather firm in their attitudinal positions. In the case of people with less definite attitudes the role of the label was found particularly influential. In other words, the results show that people's attitudes and perceptions toward a particular policy issue or problem can depend intensively on the label selected and used by management. While good managers instinctively realize the importance of finding labels which communicate their ideas clearly and effectively, it is almost impossible to do because relevant information is rarely available.

Part 4.

EMERGENCY PREPAREDNESS AND CIVIL DEFENSE

EASTERN AND WESTERN U.S. PERSPECTIVES

Do people in the Eastern part of the United States differ in their views and values from people in the Western regions, and, if so, to what extent? Conflicting speculations by laymen and experts alike on this frequently debated subject are generally based on unverifiable impressions.

The following findings are based on East-West comparisons of the perceptions and evaluations of a total of 400 respondents. The East Coast sample consists of 200 respondents from the Washington, D.C., metropolitan area. Representing the Western regions of the United States are 100 respondents from Cedar Falls, Iowa and 100 from Ellenburg, Washington. Both the East and West samples contain an equal numbers of males and females, and students and adults.

More specifically, the comparisons involve public perceptions in the domains of emergency management and civil defense. At an applied, practical level we are interested in determining whether population samples from the Eastern and Western regions of the United States differ from each other in their views and evaluations related to these domains. These subjects were chosen to clarify empirically whether the same programs and communications might bear differently on the concerns and frames of reference of these two populations. Such questions are of immediate importance to management because the answers affect the planning and implementation of various programs ranging from public information to program administration.

Our main focus here is on the dominant views and values related to specific goals and programs. These are the views that are likely to influence public involvement and performance, which are critical to success. At a more general level we are interested in gaining insights into the scope and nature of differences which separate the views of people from these geographic regions. With regard to regionally based differences we are moving in an uncharted area. It is therefore desirable to know how these differences compare in scope to differences based on age or gender. Are the regionally based differences sizable enough to deserve attention? Answers to these questions have both theoretical and practical relevance. They could be particularly useful to officials responsible for the planning and organization of public information programs.

Beyond differences in scope, we are interested in the actual nature of the differences. How do perceptual and attitudinal differences between the regional groups compare with those found between students and adults and between males and females? These findings could provide new insights into the effects of various socialization processes on people's views and on their basic perceptual and behavioral organization.

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

A complete distribution of responses is shown in Appendix C, p. 41

People from both regions consider natural disasters and war as causes of emergency. In addition, they also think of accidents, illness and death.

EMERGENCY PREPAREDNESS

Perceptions and Evaluations by
Eastern and Western U.S. Regional Samples

	E	W	Main Components	Percentage of Total Score			E	W
				E	W			
PLANNING, TRAINING	357	185				GOVERNMENT, MILITARY	287	144
plan, ned, ning	108	51	READY, ALERT, AWARENESS	13	10	government	28	22
plans	26	10	GOOD, NECESSARY, HELP	11	13	U.S.	19	-
knowledge, able	16	46	PLANNING, TRAINING	16	8	country	-	9
organized, ation	28	-	SHELTER, FOOD, SAFETY	23	36	civil defense	63	16
trained, ing	74	18	DISASTER, WAR, BOMBS	11	8	police	19	20
educate, ed, ation	18	13	GOVERNMENT, MILITARY	12	7	military	33	8
learn	4	9	HOSPITALS, FIRST-AID	7	13	defense	36	50
books	-	9	WARNINGS, MEDIA	2	4	National Guard	26	-
instruction	9	-	COSTLY, USELESS	3	2	Army	16	8
practice	27	9	MISCELLANEOUS	2	1	planes	6	11
get ready	12	-				missiles	11	-
management	10	-				weapons	20	-
Boy Scout.s	15	-				guns	10	-
merit badge	10	-						
			Total Scores	2299	2065			
SHELTER, FOOD, SAFETY	540	749				HOSPITALS, FIRST-AID	167	262
shelter.s	135	152				hospital.s	23	32
basement	-	9				Red Cross	20	54
fall-out shelter	11	-				ambulance	23	40
food	130	228				doctor.s	14	14
supply, ies	18	51				medical	6	20
extra food	-	11				medicine	10	11
water	61	95				first-aid	17	71
flashlight	-	20				C.P.R.	26	-
blankets	7	19				bandages	28	-
safety	40	74						
clothes, ing	23	-						
evacuation	26	14						
run	-	16						
family	31	18						
people	38	33						
self	-	9						

A complete distribution of responses is shown in Appendix I, p. 42

With regard to emergency preparedness, the group from the East thinks more of readiness and preparation; emphasizing planning, training, practice and management. The Eastern sample apparently assigns more responsibility to the government, civil defense and the military in achieving preparedness. They also consider disasters, emergencies, and war-related matters more intensively.

The respondents from the West think predominantly of specific protective measures. They consider such specific needs as food, water, shelter and various supplies. Similarly they think considerably more of medical care, the Red Cross, hospitals, ambulances and first aid.

F. E. M. A.

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

	E	W	Main Components	Percentage of Total Score			E	W
				E	W			
DISASTERS, EMERGENCIES	187	64				HELP, PROTECT, NECESSARY	364	287
disaster.s	89	21	GOVERNMENT, BUREAUCRACY	24	31	help	87	141
crisis	14	14	DISASTERS, EMERGENCIES	9	5	helpful	23	64
death	13	-	HELP, PROTECT, NECESSARY	18	29	aid	24	33
emergency,ies	46	19	CIVIL DEFENSE, MILITARY	5	3	protection	31	12
flood.s	26	10	MONEY, BUDGET	4	7	shelter	11	-
			WAR, BOMBS	5	3	Red Cross	21	6
			PLAN, ORGANIZE	8	5	hospital.s	20	-
CIVIL DEFENSE, MILITARY	100	36	UNKNOWN, NEVER HEARD OF	11	10	safety	24	18
civil defense	63	-	WASTE, INEFFECTIVE	4	3	security	13	-
National Guard	19	-	TEST, RESEARCH, \$10	9	0	control	18	16
defense	8	10	MISCELLANEOUS	2	5	precaution	11	-
Pentagon	-	9				food	-	9
police	-	17				good	-	28
military	10	-				good idea	13	-
						necessary	44	11
						needed	-	29
						important	24	15
			Total Scores	2055	1331			

A complete distribution of responses is shown in Appendix I, p. 43

Both groups perceive FEMA most saliently as a governmental agency. From the Eastern sample a particularly strong connotation of bureaucracy is shown; to a lesser extent the Western group mentions red tape. Probably as a consequence the Eastern respondents state more critical and skeptical attitudes toward the agency and associate it with ineffectiveness and waste. Eastern respondents also strongly relate FEMA with disasters and emergencies. They identify FEMA with the military, National Guard and civil defense and attribute to FEMA a greater role in the area of planning and preparation.

The Western sample evaluates FEMA more positively as good and needed and shows a stronger relation between FEMA and help and aid. The lower number of responses from the West indicates that for these respondents, FEMA has a more limited meaning, reflecting a lesser degree of familiarity.

EMERGENCY EVACUATION

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

		Percentage of Total Score			
		E	W		
RUN, LEAVE, MOVE		352	213	FLOOD, FIRE, RADIATION	
run,ning	93	44		flood,s	130 210
run away	11	-		tornado	35 61
flee	10	-		volcano	15 6
leave,ing	96	90		hurricane	30 25
get out	25	-		earthquake	30 53
move,ing	54	68		snow	- 11
movement	-	11		storm	14 12
escape	28	-		fire,s	64 165
exit	18	-		gas, leak	14
relocate,ion	17	-		nuclear	15 23
				Three Mile Island	13 -
				chemical,s	8 12
				radiation	15 6
CAR, TRAFFIC, PLANE		325	189	Total Scores	
car,s	94	66		3115	2846
truck,s	49	25			
bus,es	14	-			
ambulance	24	9			
traffic	25	-			
traffic jam	32	-			
highways	-	11			
road block	12	-			
roads	19	7			
vehicle	-	14			
helicopter	13	28			
plane,s	22	19			
boat,s	21	-			
ship	-	10			

A complete distribution of responses is shown in Appendix I, p. 44

The participants from the West more intensively affiliate emergency evacuation with disasters such as floods, fires, tornadoes and earthquakes. There is also a greater emphasis from this group on war, nuclear war, bombs and military events. Again, the West shows a more direct concern with help, while both Eastern and Western populations give relatively equal importance to shelter and safety.

The sample from the East focuses on running, escaping and other terms expressing swift departure. They think relatively more of cars, trucks, busses, planes, and other forms of transportation, as well as of road blocks, traffic and traffic jams.

EMERGENCY MANAGEMENT OFFICER

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

	E	W		Percentage of Total Score			E	W
GOVERNMENT, BUREAUCRAT	223	130				CONTROL, PLAN, RESPONSIBLE	375	146
government	74	109	Main Components	E	W	control	52	33
federal	13	-				direct,s	15	-
local	16	9	GOVERNMENT, BUREAUCRAT	10	8	in charge	57	12
organization	20	-	HELP, SAFETY, NECESSARY	16	20	plan,s,ning	41	6
bureaucrat	69	-	BOSS, LEADER, PEOPLE	27	29	planner	11	-
business	-	12	CONTROL, PLAN, RESPONSIBLE	17	8	authority	48	10
F.E.N.A.	31	-	CALM, INTELLIGENT, STRONG	8	8	decisions	16	-
			DISASTER, CRISIS, WAR	7	6	order,s	24	11
DISASTER, CRISIS, WAR	147	101	NOT, UNKNOWN, USELESS	10	11	organize,d	16	7
flood	-	13	CIVIL DEFENSE, RED CROSS	5	6	organizer	15	6
disaster	90	18	MISCELLANEOUS	1	4	manage	10	-
emergency	16	-				responsibility	52	32
trouble	10	12				trained,ing	18	29
crisis	31	6						
war	28	44						
problem	12	8						
			Total Scores	2164	1730			

A complete distribution of responses is shown in Appendix I, p. 45

The respondents from the East more often recognize the Emergency Management Officer as a bureaucrat, a government/federal employee and part of the governmental organization. They have a stronger view of this person as being in control, as one bestowed with authority and responsibility and as one who plans and organizes.

The respondents from the West see the Emergency Management Officer more in relationship to the police as well as to the military, Army, and defense. They also view him as being a source of help, protection and necessary information.

Both groups express a certain amount of uncertainty about the purpose of the Emergency Management Officer, asking who he is and what he does. In addition, the group from the East conveys more skepticism about his usefulness.

CIVIL DEFENSE

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

		Percentage of Total Score			
		E W		E W	
MILITARY, NATIONAL GUARD		358 560		SHELTER, PROTECTION, HELP	
army	53	47		shelter.s	141 80
Air Force	-	15		bomb shelter	10 15
Army	61	153	MILITARY, NATIONAL GUARD	14	25
Navy	17	62	WEAPONS, BOMBS	5	6
Marines	11	22	WAR, EMERGENCY, DISASTER	18	16
Coast Guard	-	22	SHELTER, PROTECTION, HELP	27	21
National Guard	71	60	PLAN, PREPAREDNESS	10	6
soldiers	15	-	GOVERNMENT, U.S.	8	5
reserves	10	-	MONEY, BUDGET	2	4
people	55	53	NEED, IMPORTANT	6	5
workers	14	6	WARNING, SIREN	6	10
volunteer.s	21	35	USELESS, UNPREPARED	3	1
police	18	41	MISCELLANEOUS	2	1
warden	12	9			
leader.s	-	22			
men	-	13			
			Total Scores	2540	2270
PLAN, PREPAREDNESS		243 134			
plan.s,ning	61	25			
prepare,ation	30	18			
prepared,ness	70	22			
drill.s	20	10			
alert	9	13			
organize,ation	26	8			
system	15	31			
training	12	7			

A complete distribution of responses is shown in Appendix C, p. 46

In relation to civil defense, both groups think of war, military events, fighting, weapons, bombs and air-raids, but the Western group more heavily identifies civil defense with various sectors of the armed forces, i.e. the Army, Navy, Marines, and Air Force.

The Eastern sample apparently finds the role of civil defense to be more the provider of shelter and protection, food and water. This group also strongly identifies planning, preparation, organization and training as important parts of civil defense. There is also a greater stress on the role of the government and FEMA.

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

A complete distribution of responses is shown in Appendix 1, p. 47

While the Eastern sample speaks of disasters in general, the participants from the West pay more attention to specific disasters, such as tornadoes and floods. Interestingly, people, families and children and terms associated with emotional pain and trauma of relocation are dominant Western responses.

FALL-OUT SHELTER

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

		Percentage of Total Score			
	E W	Main Components	E W		E W
WAR, BOMBING, DEATH	563 634			BASEMENT, UNDERGROUND	732 506
war	177 255	SAFETY, PROTECTION, LIFE	20 22	basement,s	144 111
Mr II	19 -	WAR, BOMBING, DEATH	17 23	cellar	9 -
attack	10 -	NUCLEAR, RADIATION	9 12	underground	175 153
air-raid	8 11	BASEMENT, UNDERGROUND	23 18	bomb shelter	22 -
bomb.s,ing	155 191	FOOD, WATER, SUPPLIES	12 12	shelter	9 24
explosion	8 10	DARK, CROWDED, USELESS	10 10	yellow sign	28 -
death	61 86	FEAR, PANIC	4 2	sign.s	16 22
destruction	34 21	THE 50'S	3 0	siren, warning	25 3
disaster	23 21	MISCELLANEOUS	2 1	home	27 -
emergency	28 11			house	15 5
danger	40 9			backyard	18 -
tornado	- 19			cave	19 12
		Total Scores	3227 2775	hole	41 16
FEAR, PANIC	145 44			box	11 -
fear	49 -			place	11 -
scary,ed	36 29			school.s	64 26
where?	16 4			subway.s	15 -
panic	34 11			down	- 10
sad	10 -			temporary	19 -
				concrete	23 53
				cement	10 54
				lead	15 7
				thick wall	16 -
				cover	- 10

A complete distribution of responses is shown in Appendix I, p. 48

To both groups fallout shelter suggests safety, protection, and an opportunity for survival. The Eastern sample mentions a variety of characteristics related to shelters, from types to location to physical qualities. This group associates fallout shelters with the 1950's (and 60's), but the Western sample makes no mention of these time periods.

The sample from West places more emphasis than the Eastern group on war, bombs, nuclear war, and their effects. Radiation and death are similar concerns of both groups, however, the Eastern group is more predisposed to think of panic and fear.

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

A complete distribution of responses is shown in Appendix : D. 45

The underground nature of blast shelters as well as specifics related to their construction are more dominant concerns of the Eastern sample. Both groups express views that the shelters are dark, cold, crowded and useless.

CIVIL DEFENSE VOLUNTEER

Perceptions and Evaluations by Eastern and Western U.S. Regional Samples

		Percentage of Total Score			
		E	W		
MILITARY, NATIONAL GUARD	200 121	Main Components		E	W
military	36 -	HELP, AID	17 21	CRAZY, NO PAY	148 44
Army	44 53	MILITARY, NATIONAL GUARD	9 7	crazy	29 -
National Guard	69 35	SHELTER PROTECTION, SAFETY	13 12	stupid	- 10
Air Force	- 10	GOOD, PATRIOTIC, CARING	19 19	useless	18 -
fighting	14 -	DISASTER, WAR, EMERGENCY	9 11	not needed	12 8
guns	10 -	PEOPLE, MEN, CITIZENS	16 15	free	- 12
weapons	10 -	TRAINING, PREPAREDNESS	5 4	unpaid	25 -
minutemen	11 -	HELMET, HARD HAT	4 2	no pay	21 -
soldier	- 12	CRAZY, NO PAY	7 3	unemployed	11 -
draft	6 11	MISCELLANEOUS	2 5	paid	10 -
				who?	11 -
				public spies	11 -
SHELTER PROTECTION, SAFETY	282 214	Total Scores	2179 1722		
shelters	70 21				
bomb shelter	6 10				
sign	12 -				
sirens	16 32				
protector	15 9				
protection	31 22				
safety	29 48				
Red Cross	37 63				
first-aid	21 -				
life	13 9				
food	21 -				
home	11 -				

A complete distribution of responses is shown in Appendix I, p. 51.

The Civil Defense Volunteer is viewed as good and necessary by both groups. They also agree that being a volunteer requires patriotism, courage, caring and giving. Volunteers are people in general and can be men, women, friends and neighbors. The Eastern group relates volunteers more closely to citizenship, country, and community than does the Western group. The Army and National Guard are emphasized.

The respondents from the West associate civil defense volunteers with wartime, while the Eastern sample also consider disasters and emergencies in general to be important.

The Eastern respondents express slightly more critical or cynical attitudes and suggest that the role is crazy and useless. A great deal of these responses relate to the fact that the volunteer is not paid.

Regional Trends: The Scope and Nature of Differences

Most of the differences observed between the regional groups are relatively slight or moderate; nonetheless, they emerge with considerable consistency. The variations appear to be more the result of differences in situation or experience rather than differences related to deeper processes of socialization and upbringing.

Some of the differences are apparently a result of the groups' proximity to Washington, D.C., home of the federal government. Probably due to their close vicinity, the respondents from the East (tested in the D.C. metro area) tend to think more of the U.S. government, attribute more importance to it, and are also more critical and skeptical about its role.

On the positive side the Eastern group thinks more of planning, organization, management and leadership. On the negative side they think more of bureaucracy and express more skepticism. This group also tends to be more concerned with specific characteristics of emergency related measures and roles. They think somewhat more of dangers, fear and panic.

The Western samples show stronger tendencies to view emergency and civil defense measures more positively, and to see them more as sources of help and useful assistance. They convey less skepticism, more trust and optimism. They usually think more of resources and supplies: food, water, medical assistance and first-aid. In general, they also think more of people, families, children. They place greater emphasis on specific disasters such as floods, tornados or earthquakes, compared to the people in the East who think more in terms of disasters and war in general.

The differences observed between the regional groups are primarily minor and modest. They appear to originate on the basis of somewhat different experiences or foci of attention, compared to previously observed differences attributable to age or sex.

Part 5. THE INFLUENCE OF MAIN VARIABLES ON PUBLIC PERCEPTIONS

Variables Relevant to Planning and Management

The previous sections of this report presented data on perceptual variations between students and adults, between males and females, between positive and negative groups, and between east and west regional samples. More generally, we examined how age, sex, attitudinal or geographic differences introduce perspectives which influence public perceptions in various areas of life, such as in regard to emergency preparedness.

In contrast to the previous focus on specific issues, the following analysis is focused on broader questions: e.g., how important are such factors as age or sex in shaping people's views and general frame of reference?

The results obtained on specific issues such as various civil defense measures offer insightful details relevant to program managers, administrators, and emergency management personnel responsible for the planning and implementation of specific plans and programs. The results presented in this section may be more informative to high level planners and administrators of public information and education programs who, in developing emergency management and public information policies, would want to know which particular subpopulations require special attention and call for a more differentiated approach, involving what particular domain of life or management interest.

At a higher level of planning or decision making it may not be important to know all the details of how men and women are differently predisposed to perceive risks or specific emergencies. In view of the limited resources available, it appears highly desirable for high level planners of public information policies to know what main subpopulations require separate attention. Compared to the past when such decisions had to be made by and large on an impressionistic, instinctive basis, the information obtained through our assessment offers new opportunities to make such decisions on a solid empirical foundation. To take advantage of this new information it is desirable that officials working in this area become aware of the relevant differences and that they are given the opportunity to make the necessary adjustments.

The Influence of Age

In the context of the present study effects of age differences have been examined by comparing the views of students and adults. The student samples participating in this study had an average age of 20 years, the adults 50 years.

The mean similarity coefficients shown in the following table for specific domains are based on the Pearson product-moment formula. The means were obtained by using Fisher's z' score transformation.

Mean Similarity Coefficients between Students and Adults*

Domains	Similarity	Homogeneity	Relative Distance
Natural Disasters	.90	.96	.06
Technical Accidents	.88	.96	.08
Nuclear Threat	.84	.93	.09
Emergency Management	.70	.88	.18
Civil Defense	.71	.91	.20
Society, Nation	.92	.97	.05
Economy, Prosperity	.87	.95	.08
International Relations	.83	.92	.09
Political Leaders	.88	.95	.07
Strategic Defense	.75	.90	.15
Overall Mean	.84	.94	.10

The preceding table presents three types of coefficients. The first column shows the mean similarity measured in each particular domain between the student and the adult public perceptions on the basis of six themes used to represent each particular domain. For instance, in the representation of Natural Disasters we used tornado, hurricane, flood, etc. The mean coefficients obtained for particular domains show generally high values and considerable variation. The highest values were obtained for the domains of Society, Nation; Natural Disasters, and Technical Accidents. The lowest coefficients were obtained for Defense Concepts, Civil Defense, and Emergency Management. These differences are highly significant and indicate that generational or age differences are particularly sizable in the domains relevant to emergency preparedness.

Our studies on the measurement of psycho-cultural distance provide relevant insights here. Past studies (Szalay, Williams, Bryson, and West,

 *The mean coefficients presented in this table are based on a comparison of the groups on six key subjects used in the representation of each domain studied. Each coefficient is founded on approximately 600 pairs of observations. The overall means shown at the bottom of the table are based on approximately 6,000 pairs of observations. The confidence limits shown for .01 level of significance are .1 for N=600 and .03 for N=6,000.

1976; Szalay and Bryson, 1973) have shown that it is possible to trace the influence of some additional variables on intergroup similarity as measured by our coefficient. An important factor affecting the value of the similarity coefficient is the extent to which the groups compared are internally homogeneous in their views. This depends a great deal on the nature of the issues or themes examined. On themes that are concrete and specific like food or dress there is generally more internal agreement among the members of the group. On themes that are abstract or intangible with vague, indeterminate referents, like hope or concern, there is usually considerably less intragroup agreement or homogeneity. In the case of low intragroup agreement, the intergroup similarity will be low as well.

The dependence of intergroup similarity on intragroup homogeneity makes it desirable to assess homogeneity independently and to take its variations into consideration. A practical way to assess intragroup homogeneity is to split the group randomly into two halves and measure their similarity. In the present study the split-half groups were formed from the total group of respondents tested, regardless of subgroupings (student/adult, male/female). The resulting homogeneity coefficients are presented in the second column of the previous table. As the findings show, the homogeneity coefficients are consistently higher than the similarity coefficients, yet reflect considerable variation. There is indeed a difference here between the more concrete themes such as specific disasters and the less concrete themes such as strategic defense. As both friends and foes of SDI will agree, the specific systems and technologies it may include are as yet unknown.

A review of the homogeneity coefficients conveys a sense that the determinate/indeterminate nature of the issue or domain does influence within certain limits intergroup similarity. This same finding has been supported by the results of previous investigations which examined this relationship systematically in other contexts (Szalay, Bryson, and West, 1974; Szalay and Bryson, 1976).

The isolation of intragroup homogeneity and intergroup similarity on a solid empirical foundation makes it possible to determine the variance controlled by actual distance by identifying the difference between similarity and homogeneity. The coefficients so obtained are shown in the third column of the previous table. These coefficients of "relative distance" show to what extent distance varies independently of intragroup heterogeneity. In the domains of Civil Defense, Emergency Preparedness, and Strategic Defense the student and adult perspectives differ the most significantly. These are the domains that are particularly relevant to FEMA's mission. What the differences involve in terms of specific perceptual and evaluative dispositions we have discussed in some detail in the previous section on student-adult public perceptions.

The Influence of Sex

A comparison of the male and female samples, as shown in the table below, has produced mean coefficients which are in several ways informative on the findings of the student-adult comparison. There are some important differences as well.

Mean Similarity Coefficients between Males and Females

Domains	Similarity	Homogeneity	Relative Distance
Natural Disasters	.94	.96	.02
Technical Accidents	.82	.96	.14
Nuclear Threat	.87	.93	.06
Emergency Management	.84	.88	.04
Civil Defense	.79	.91	.12
Society, Nation	.92	.97	.05
Economy, Prosperity	.93	.95	.02
International Relations	.84	.92	.08
Political Leaders	.90	.95	.05
Strategic Defense	.81	.90	.09
Overall Mean	.88	.94	.06

A comparison of the mean coefficients obtained for the ten domains examined show that Technical Accidents and Civil Defense are the domains on which males and females show the most difference. On Natural Disasters and Economy, Prosperity the male and female perspectives show a rather close agreement. There are similarly large differences in perspectives for both the male/female and the student/adult comparisons in the domain of Civil Defense domain. While the student/adult comparison shows also large differences in the domain of Emergency Preparedness, the males and females differ in this domain to a lesser extent.

As a general trend we find that, except in the domain of Industrial Accidents, the male/female differences are in most instances substantially smaller than the differences measured between students and adults. This finding is both consistent and numerically significant. It shows that sex is a factor which produces less difference in perceptions and values than age (being student or adult). This finding, based here on a solid empirical foundation, is not only new but probably also conflicts with expectations of male/female differences.

The Influence of the Geographic Region

By dividing our samples in two main large groups, we have compared a sample of two hundred respondents representing the East Coast and another sample of two hundred respondents representing the West Coast. Based on the literature it is not known whether a comparison between the North and the South would have produced larger or more important differences. Nonetheless, the present investigations were more of the nature of a pilot study, too modest in scope to offer definitive answers to the many meaningful and interesting questions which one could pose about the influence of the rich regional differentiation characteristic of the United States on the peoples' perceptions and frame of reference.

As the distance coefficients presented in the following table show, there are again distinct differences in all domains between the East and the West Coast samples; in all domains compared the similarity coefficients between the two regions were smaller than the coefficients showing the intragroup homogeneity of these populations. Across the board the mean distance found between East and West is numerically the same as the distance measured between males and females, but the distribution of differences across domains is different.

Mean Similarity Coefficients between East and West Coast Samples

Domains	Similarity	Homogeneity	Relative Distance
NaturalDisasters	.93	.96	.03
TechnicalAccidents	.88	.96	.08
NuclearThreat	.92	.93	.01
EmergencyManagement	.78	.88	.10
Civil Defense	.86	.91	.05
Society, Nation	.91	.97	.06
Economy, Prosperity	.91	.95	.04
International Relations	.83	.92	.09
Political Leaders	.92	.95	.03
Strategic Defense	.80	.90	.10
Overall Mean	.88	.94	.06

The domains of Emergency Management, Defense Concepts and International Relations show the most distance. On the domains of Nuclear Threat and Political Leaders the two regional populations show the least difference.

The Influence of Positive vs. Negative Attitudes

The effects of another variable examined in this study involved attitudes. Social psychologists are well aware that people who are for or against particular issues like socialism or birth control differ from each other in their perceptions as well. The pro group not only approves socialism, for instance, but also perceives it as more related to equality, social justice and democracy. The negative group sees socialism more as involving control and the suppression of individual freedom and as related to communism (White, 1971; Szalay and Windle, 1978).

Just how much do contrasting attitudes entail different perceptions? This is a question of both theoretical and practical interest. Yet the question is widely open, largely because of the methodological problems. To find solid empirical answers requires sensitive measures that can assess the two related psychological variables of perceptions and attitudes independently from each other.

In the framework of the present investigations an independent attitude scale was used to assess attitudes on the 60 themes included in this part of the investigations. On most issues the overwhelming majority of the respondents showed either a positive or a negative attitude. However, on 20 themes there was a sufficient split in attitudes so that we could form two sizable subsamples, one with predominantly positive attitudes and the other with predominantly negative attitudes. A comparison of the positive and negative attitudinal groups with regard to their perceptions measured by the similarity coefficient has offered an empirically founded approach to compare the perceptions of groups with contrasting attitudes.

In these comparisons the positive and the negative groups were not of precisely equal size. Furthermore, the respondents who have expressed a neutral or ambivalent position were excluded. Consequently, the total number of respondents compared was less than the original sample size, and since the groups compared were rarely equal, the smaller group usually did not reach the sample size of $n=200$, on which the other comparisons reported in this volume have been based.

As discussed in Appendix II, the sample size is a variable which was found to affect the similarity coefficient in rather predictable ways. The smaller sample size involved in the comparison of the groups of opposing attitudes may have some modest effects on the relative distance measures presented in the following table. Since each group differed in size, it is impossible to offer a precise estimate. The similarity and the distance coefficients presented in the next table are coefficients calculated on the selected specific issues or themes rather than on the broader domains shown in the preceding tables.

The similarity as well as the distance coefficients show considerable variation across the specific issues or themes studied. The homogeneity

coefficients vary as well, but to a lesser extent. In most instances low similarity is a simple inverse relationship to relative distance. The themes or issues on which the positive and the negative groups show the least similarity in their perspectives---like Nuclear Deterrence, Strategic Defense Initiative, Laser Beam Missile Defense, and Mutually Assured Destruction---are those on which the coefficients of relative distance adjusted for intragroup homogeneity are the highest.

Main Similarity Coefficients Between
Groups of Positive and Negative Attitudes

Issues	Similarity	Homogeneity	Relative Distance
Risk	.90	.98	.08
Nuclear War Survival	.71	.90	.19
Nuclear Deterrence	.44	.74	.30
F.E.M.A.	.71	.88	.17
Emergency Preparedness	.75	.86	.11
Emergency Management Officer	.77	.89	.12
Civil Defense	.75	.92	.17
Socialism	.84	.93	.09
Capitalism	.73	.97	.24
President Reagan	.82	.92	.10
Chairman Gorbachev	.74	.96	.22
Communism	.92	.98	.06
Star Wars Program	.77	.88	.11
Laser Missile Defense	.70	.92	.22
High Tech Nuclear Defense	.75	.85	.13
MAD	.71	.89	.18
SDI	.53	.73	.20
Mean Coefficient	.76	.91	.15

As apparent from all the themes analyzed (120 key issues or themes in the first phase of the study), the public perceptions are particularly far apart in the domain of contemporary strategic defense concepts. In other words, the groups characterized by opposing attitudes differ most intensively in perspectives in the domain of strategic defense. In most instances these differences entail considerably lower intragroup homogeneity as well. In certain instances, however, as in the case of Nuclear Survival or Civil Defense, we find considerable differences in perspectives despite relatively high intragroup homogeneity.

In the company of the strategic defense and civil defense concepts we find capitalism as a more traditional, nonmilitary theme on which the positive vs. negative groups show particularly divergent perspectives. On socialism the positive and the negative attitudinal groups are less different. While the similarity and distance coefficients show the scope of differences in perceptions or perspectives, what these differences actually involve can be identified through a more detailed analysis as exemplified previously in the discussion of specific differences in the perceptions of particular emergency preparedness and civil defense concepts. The distance coefficients give new insights into the scope and distribution of perceptual differences stemming from contrasting attitudes. How to improve communications with people of opposing attitudes becomes apparent from a closer look at the perceptual differences presented in that section.

The Relative Scope and Nature of Influences by Background Variables and Attitudes

The results are sufficiently conclusive both about the relative importance of the variables examined and the differential nature of their influences relevant to practical management interests. Among the variables examined it is possible to establish a sort of rank order reflecting on the relative scope of influences affecting the views and evaluations of the populations examined.

Relative Distances Due to Differences in Sex, Geographic Region, and Age

Domains	Male/Female	East/West	Student/Adult
Natural Disasters	.02	.03	.06
Technical Accidents	.10	.08	.08
Nuclear Threat	.06	.01	.09
Emergency Management	.04	.10	.18
Civil Defense	.12	.05	.20
Society, Nation	.05	.06	.05
Economy, Prosperity	.02	.04	.08
International Relations	.08	.09	.09
Leadership, Future	.05	.03	.07
Strategic Defense	.09	.10	.15
Overall Mean	.06	.06	.10

The effects of the above main background variables emerge with considerable clarity and consistency.

The perceptual differences measured between males and females are the smallest from the three demographic background variables examined. Nonetheless, the results show that sex does affect perceptions in all ten domains considered. It may be of some interest to observe that the male/female differences measured in other cultures, such as Puerto Rican, Korean, and Mexican, were found to be substantially larger than the American. Nonetheless, sex is a variable involving qualitative rather than quantitative differences, at least within the framework of a particular culture or society. Consequently, the present findings, which are in close agreement with the results of our other domestic and overseas comparisons (Szalay & Williams, 1976 .34 , Szalay & Diaz-Guerrero, 1985 .62), can be accepted as conclusive on the relative order of magnitude of the sex-based perceptual differences. These comparisons are in fundamental agreement in showing that the perceptual and motivational differences between males and females vary depending on the domain of comparison. They are more sizable in affect-laden and danger-laden domains such as Civil Defense, Technical Accidents, and Strategic Defense, while they are negligible on the more tangible issues of economy or health. Their order of magnitude is smaller than the differences due to age, to socio-economic or cultural background.

The differences measured between the samples representing the Eastern and Western United States are similarly informative but less conclusive. This stems partially from the fact that the sampling did not provide for a more detailed comparison of regional variations. Differences between the North and the South could be greater; differences between urban and rural areas is also of relevance. It is possible that differences within the East---for instance, between samples from Appalachia and Washington D.C.---could be as great or greater than between samples in Washington, D.C., and the state of Washington. Thus, the difference found between our East and West samples gives useful insights into the range and the general order of magnitude of perceptual and motivational differences characteristic of the samples used. To what extent these differences may be generalizable and eventually applied to comparable settings will require more systematic examination.

That the size of regional perceptual differences is about the same as sex based differences is a new and informative finding. Perhaps more useful is the conclusion that the nature of their perceptual differences is quite different. Based on the analysis of specific issues the regional differences are more ad hoc and situationally determined. The sex as well as age based differences are more the result of different processes of socialization. The male/female differences in regard to emergencies, for instance, reflect differences in socialization. Women develop natural expectations of being helped and relying on personal and organizational support whereas the male role entails more planning and providing support. The different sex roles are a source of interrelated and internally consistent dispositions to perceive from different angles hazards, risks, and specific disasters, including the problems of protection and security. The regional differences are more situation-bound and less interrelated. In the East there are different rivers threatening to flood and different probabilities and concerns with earthquakes, and apparently there is a somewhat different view of the government and bureaucracy.

Of the three demographic or background variables examined the perceptual distance measured between the two age groups is the most sizable. The size of this difference is bound to vary naturally depending on how much age difference there is between the groups compared. The greater the age difference between the young and old groups compared, the more the distance between their perceptions is likely to grow. The findings again show conclusively that the distance between the age groups varies intensively depending on the domain of comparison. In the framework of the present study we found the most difference between the students and the adults in the domains of Civil Defense, Emergency Management, and Strategic Defense.

Analysis of specific issues also indicates that compared to the more situation-bound differences observed between the samples from the Eastern and Western United States, the age based differences stem from different angles of observation, experiences, and socialization processes. The differences in perceptions and evaluations between students and adults show consistent trends such as quick reactions to crisis situations versus advanced preparations and planning (e.g., this was observed across diverse measures such as emergency evacuation, crisis relocation, and use of shelters).

Furthermore, there is an internal coherence or rationale to these perspectives. The students, for example, are less planned and more reactive, stress quick decisions and fast action, are concerned with alarm signals, think more of dangers and panic, count more on governmental and organizational support, are less skeptical of the government's role in emergencies, etc. The adults, on the other hand, place more emphasis on self reliance, stress advanced planning, training, and concern with supplies. The students and adults represent somewhat contrastive tendencies, which have internal logical consistency following from specific experiences, and result in a set of related perspectives. These trends and perspectives have been discussed in detail in the section on student/adult views of emergency management and civil defense.

The fourth variable examined involved the influence of attitudes on public perceptions. From the variables examined this appeared to be most potent, most influential in controlling perceptions and setting perspectives. The measured distance between the perceptions of the positive and negative groups varied widely from .06 to .30. We should note that we are dealing here with a variable which is quantitative in nature. The intensity, or what is frequently labelled as polarity of attitudes, can make a considerable difference. The more two groups are polarized in their pro vs. con positions, the more likely it is that their views will be characterized by different perspectives.

In the framework of the present study no attempt was made to compare groups composed of intensively positive vs. negative attitudes. Such comparisons can be particularly informative on the influence of attitudes on the development of different sets of perceptual dispositions, and this was the case in a previous study (Szalay & Bryson, 1973). Although greater polarity does increase perceptual distance, the findings obtained in the framework of the present investigations can be accepted as informative of people with average attitudinal polarization. Even within the framework of the present study, it is apparent that the issues of strategic defense, like SDI, Laser Beam Nuclear Defense, and Mutually Assured Destruction, characterized by higher than average affective involvement are among those characterized by intensive differences in perceptual trends or perspectives.

The correlational results naturally do not tell us about the direction of the influence. Do the contrasting attitudes result from different perspectives? For example, do different attitudes toward civil defense result from people's disposition to look at it either as a source of protection or as a source of potential international tension? Or is it the other way around? Are different perspectives the source of contrasting attitudes? Differing perspectives commonly receive less attention than attitudes, which are the main target of and more readily accessible through conventional attitude surveys. While the influences may go in both ways, from the angle of management it is important to recognize the differences in perspectives.

While the section on attitude-based perceptual differences contains detailed information on public perceptions related to emergency preparedness and civil defense, the relevance of this information to management problems, from policy formulations to public information programs, involves principles summarized briefly in the section on conclusions and recommendations.

V. IMPLICATIONS OF THE FINDINGS FOR EMERGENCY MANAGEMENT, RESEARCH AND DEVELOPMENT

The findings from this project offer new empirical evidence that males and females and other segments of the public do look at issues and programs of civil defense and emergency management according to their own particular perspectives and subjective priorities. These subjective perspectives and priorities are reflected, for example, in perceptual and motivational trends which characterize a group of males and differentiate them from females.

The findings show that differences in perceptions and motivations are not ad hoc and accidental but follow from the background, experiences and frames of reference of the various demographic groups or segments of the public. Familiarity with the background and experiences of the groups can explain a great deal about their perceptual and motivational dispositions. Yet familiarity with a group's background may not reveal enough. It usually does not encompass a reliable, objective knowledge of their subjective perspectives and priorities since these dispositions have deep roots in psychological processes (perceptual representation, value socialization) which are predominantly subconscious and unobservable. Since these deep psychological dispositions influence how people view specific issues and programs, such as civil defense, and what they are likely to do about them, they are of natural importance to management. The findings presented in this report offer new insights into perceptual and motivational dispositions, including their effects on people's support of emergency management objectives and programs, their participation and their actual or potential involvement in implementation.

Insights into Human Dispositions Relevant to Management

The relevance of the findings to emergency management follows from the very nature of human dispositions and the scope of their variations along certain background variables. They offer insights into the role and importance of human factors, which have received limited attention. Although their importance has been demonstrated in such applied fields as clinical psychology, motivation research, and advertising, perceptual and motivational factors are being recognized more in principle than in practice by the more sophisticated managers. A practical consideration of these human dispositions has been limited in this field by the scarcity of reliable information. The availability of this empirically founded management relevant information can be expected to increase the recognition of these perceptual and motivational dispositions as important factors to be considered in effective management. These insights offer new opportunities in emergency management to develop plans and programs undergirded by a more advanced and effective accounting of the human element with increased capabilities to reach people and to involve them more effectively in the pursuit of the main management objectives.

In turn this new kind of information has the potential to stimulate the development of management theory. Management theories built around the principles of the "management by objective" approach have been criticized for not giving sufficient attention to the human dimension, to personal dispositions, views and interests. Providing information on human dispositions along the lines illustrated by the present investigations could facilitate a shift in emphasis. The shift might be described as a move from "management by objective" to "management by people and objectives." This new stage would be characterized by a firm recognition of dominant human dispositions and supported by the development and implementation of plans and programs based on an effective reliance on these dispositions.

Such a development may be helpful in increasing the effectiveness of emergency management and other management tasks. Furthermore, it could help to establish management as a field based on its own rationale and requirements, making it increasingly independent from the extraneous influences of its predecessors, like some of the relevant policy sciences.

An area where such an emancipation could be of practical utility is in the domain of research methodology. The present findings point to the possibility of developing methodological approaches which rely on several sources and traditions and use them according to the needs and requirements posed by effective and successful management. The implications of the present pilot study in regard to developing and testing such a research strategy will be addressed as our next and last topic.

Extensive Opinion Surveys Versus In-depth Analysis

One of the original objectives of the present investigations was to develop and test a research procedure that combines the advantages of the direct approach of structured opinion surveys with the advantages of the indirect approach represented by our unstructured, in-depth perceptual and motivational assessment.

Jiri Nehnevajsa, whose "Public Surveys" have become a venerable tradition in the field of civil defense research, was among the first and most articulate spokesmen for the need to complement direct, survey-based opinion data with information on subjective images and meanings. Because of his awareness of the problem and the conscientious efforts he and his associates undertook to use both structured and less structured forms of eliciting answers, the "Public Surveys" have produced sophisticated analytic results which went far beyond the information commonly available through the multiple choice response alternatives.

Unfortunately, the delays in clearing the Public Survey prevented us from developing a process in which we could have combined the results of the two methods. We did include a structured attitude task in our own research design and are in the position to address this subject on a more modest foundation. Since the attitude measure we used in this study was highly structured, it offers a basis to contrast in more simplistic terms the structured opinion survey techniques with the unstructured perceptual/motivational assessment.

The Complementary Nature of Two Assessment Strategies

Survey research is the single most important source of social science information about people's attitudes and opinions with regard to public policy issues. Data are obtained through direct questions, sampling people's attitudes and opinions on such issues as the president's treatment of the Middle East crisis or the legalization of abortion. The percentage of the population in agreement, in disagreement, or undecided on a particular issue may be the focus of interest. On issues like the popularity of the president, the capability of the polls to trace the changing mood of the people with accuracy is the main contribution rather than to provide an in-depth analysis of their views or broader belief systems.

Just about the opposite is true about the AGA-based assessments, in which inferences are drawn from the spontaneous distribution of free association responses. This approach does not pose direct questions or elicit rational judgments or statements of opinion. The primary interest is in the main perceptual and motivational trends which predispose people to approach complex social and political realities in certain predetermined ways. These tendencies are deep and relatively enduring and therefore do not require continuous tracking but a rather infrequent indepth assessment.

Sophisticated attitude research has produced some carefully validated attitude scales capable of penetrating belief systems, but these approaches are based on complex interactional analyses of responses to direct questions, leaving gaps in areas not covered by the specific questions. On the other hand, structured opinion surveys focused on single issues chosen along the investigator's priorities or policy interests call for personal judgments (i.e., do you agree with..., do you approve of...).

The unstructured AGA method seeks to reconstruct people's belief system or subjective representation of their world along their dominant priorities and natural parameters of organization. People are not asked whether they are for or against civil defense; they are merely asked to write down each word as it comes to mind in response to a stimulus word. The aim of this approach is to assess how people view civil defense, what it means to them, and how important it is for them by tapping indirectly their subjective responses.

The two approaches are complementary in nature. This complementary relationship has several practical implications. While attitude and opinion surveys have their classical strength in providing sensitive tools for tracing the basic orientation and changing mood of people by asking explicit questions, the AGA approach offers an opportunity for in-depth analysis of subjective meanings and beliefs along parameters of which people are themselves frequently unaware. Opinion surveys are quick, straightforward and economical in applications where people's meanings and opinions are well known, and the main question then is to determine the actual distribution. In-depth assessment is desirable in applications where meanings and beliefs are ambiguous and include perceptual and motivational elements which fall beyond the realm of people's conscious awareness. Careful attitudinal research provides a bridge between the two, extending the direct question technique and establishing focused linkages with the full mosaic provided by the data of the AGA method.

To make the distinction clear we may consider some earlier findings in application to civil defense. It is of considerable practical importance to know what percentage of the U.S. population is for, against, or undecided about the necessity of an active civil defense program. This information can be made available best by a properly designed opinion survey based on sizable population samples carefully selected to be representative of the U.S. society, its size and composition.

The in-depth analysis, which is less suitable for providing this breakdown by pro and con attitudes, provides information on other important elements. It can show, for example, what people mean by civil defense when they express a positive or negative attitude. Do they have in mind some sort of military or paramilitary activities which can complement strategy in any realm of warfare, or do they think of certain narrow support functions limited to the defense of the homeland, or do they think in purely humanitarian terms of saving lives and protecting people's property? Also, what specific preparations and activities do people have in mind when they support or oppose civil defense? How important is civil defense in people's minds? Is this an issue on which they rarely concern themselves or is civil defense a matter of active and salient concern for them? Do people think more of emergency evacuation or of using shelters? How do attitudes on civil defense tie in with people's overall frame of reference?

Research has shown that there are numerous characteristics of beliefs which are not readily accessible to direct questioning or scaling, partially because they are beyond people's conscious awareness. (For example, people negative on socialism think of communism, Soviet political control, and command economy, while people positive on socialism think more of the Swedish and English social legislation, health care, and welfare benefits.)

To gain insights into subjective meanings and their frequently dramatic influences on the results of opinions and beliefs measured through structured survey questions, a parallel use of an in-depth analytic method is highly desirable if not indispensable.

Findings on Perceptual/Motivational Dispositions of Groups with Contrasting Attitudes

The present investigations indicate that it is possible to retain the advantages of both analytic methods by developing a strategy involving their combined use. The results not only support such a conclusion but also provide information on how to achieve such a combination.

Part 3 of the findings offers extensive illustrations of how people with positive attitudes in regard to civil defense, emergency management and other management issues differ in their perceptions and motivational priorities from people who are predominantly negative on these policy issues. The findings reflect frequently dramatic differences in perspectives and priorities and clearly show that without these insights data on the percentages of the respondents with positive versus negative attitudes convey only a partial picture.

The missing information may not be too critical for politicians who are mainly interested in the popularity of a particular issue, in the trends of

growing or vanishing public support. The missing information can be of critical importance, however, to managers whose interest is centered on how to implement programs, how to promote program objectives like emergency evacuation, and how to ensure optimal cooperation and saving lives. In other words, differences in perceptions and priorities are substantive and their nature bears precisely on those parameters of human dispositions which are critical to success in the field of emergency management as well as in management in general.

Furthermore, the differences are predominantly of a representational rather than judgmental nature. In other words, more subjective attention is given to certain variables than others. For example, one group may focus on finding practical measures for survival while another group may be more preoccupied with fear, threat, and destruction. These different patterns of concerns obviously influence how people view and approach civil defense. It is also clear that the dominant perceptions and priorities reflect different subjective representations of reality rather than rational judgments.

The distance measures presented in Part 5 of the findings show that perceptual/motivational distance is the largest between groups of contrasting attitudes. Differences in demographic characteristics such as sex and age were found to be less important sources of perceptual/motivational distance than contrasting attitudes. This finding offers empirical support to the strategy of combining findings from the structured extensive research methods and unstructured, in-depth methods by using the attitude dimension to provide a common reference base.

The perceptual/motivational insights emerging from these investigations appear to be closely and intrinsically relevant to the management task of reaching people of different backgrounds and different attitudes. The results support our original research interest in developing practical ways to combine information obtained from direct, structured and indirect, unstructured approaches.

Finally, the results help to differentiate two types of research interest promoted by two different types of applications. One is represented by the more traditional interest of domestic body politics to keep tabs on the changing popularity of policy issues. The second is represented by a relatively stronger management preoccupation with how to implement management objectives. In this practical focus on the implementation of management objectives the task of tracing changing popularities and public sentiments has a lesser importance. The main practical concern here is in finding ways to represent management objectives as meaningfully and compellingly as possible by taking people's dominant views and motivations into careful consideration.

These considerations suggest that data collection performed independently along the specific requirements of each of the main strategies may offer a sound approach. As a possible design we might suggest, for instance, conducting an opinion survey based on a statistically representative national sample of a minimum of 1,600-2,000 respondents. This could be considered comparable to an in-depth AGA analysis based on 400 respondents drawn from the various main regions of the U.S. The data collections would be planned to cover the same core policy issues of common interest.

Establishing a Connecting Link

To establish a linkage between the results obtained through the two independent data sets (the AGA based perceptual/motivational data and the extensive survey based data on pro and con opinions), it is desirable to administer a simple pro-con attitude scale along with the AGA task providing a parallel attitudinal data set on the policy issues examined.

To obtain simple independent attitude information, we frequently use a connotation task following the administration of the AGA task. In this task the subjects are asked to go through the slips presenting the individual stimulus themes and to express how they judge the connotation of each theme, whether it is positive or negative or neutral, by using +, -, or 0 signs and using a number 3 if it is very, 2 if it is quite, and 1 if it is slightly positive or negative to them. Using this procedure, a respondent who feels, for instance, that birth control has a very negative connotation can use -3, while another, who feels it has quite a positive connotation can express his/her opinion by using +2.

This connotation task was found in past investigations to provide quickly and simply valid attitudes from each respondent on each theme used in the study. The correlation of connotation data with independent attitude data was repeatedly above the .9 level when calculated on a group basis (Szalay, Lysne, 1968; Szalay, Bryson, 1972).

The independent attitude (connotation) measure can be used to form subgroups with positive and negative attitudes and to reconstruct from the AGA association data their images and values on the policy issues (e.g., civil defense). If the size of the population permits and there is a sufficient number of subjects, it is possible even to analyze the belief systems and the differences between groups holding very, quite, and only slightly positive attitudes on a particular theme.

The Combination of Two Research Strategies

The two research methods---the extensive opinion surveys performed on the basis of representative samples and the AGA based in-depth perceptual and motivational assessment---offer two different but complementary sets of information equally relevant to management. The following research strategy allows to combine the advantages of both kinds of information.

This strategy involves three steps. The first step entails data collection based on both methods following their different requirements. The second step is the use of a brief attitude measure included with the AGA data collection as a connecting link. The third step involves analysis which can provide the combined findings.

In considering the two data collection procedures it may be first tempting to assume that the combination may be best achieved by trying to follow similar procedures. In the case of the ASsociative Group Analysis method this could mean, for instance, to administer AGA to the same people and with the same procedures as used in a particular opinion survey:

contacting people individually, eliciting their reactions in a one-on-one, face-to-face setting, which may even include an oral presentation of the stimulus themes, as may be the case with the interview questions, etc.

While such an approach is theoretically possible, from a psychological angle it is undesirable. It would violate the rationale of the AGA strategy: a group method, which enhances the impersonal characteristics of the setting, keeps the subject's interest focused on the stimulus theme, reduces as far as possible contamination by the personality characteristics of the test administrator, maintains an impersonal, neutral setting where the respondent spontaneously reacts to the stimulus theme, does not edit or select responses, can afford to be nonrational, subjective-personal, etc. He or she knows that the group setting preserves his/her anonymity and privacy. Furthermore, it helps to avoid the interpersonal dynamics always present in a face-to-face setting. Were we, for instance, to follow data collection procedures used in face-to-face interview settings with AGA we probably would lose the spontaneity and some of the essentially nonjudgmental nature of the AGA data.

Furthermore, these simple attitude scores allow us to split groups and form groups along the main relevant alternative beliefs. For instance, after a group has been formed from those with negative attitudes on civil defense, next it is easy to split this group into subgroups based on, for example, attitudes toward defense spending or nuclear freeze. In other words, one can distinguish and analyze the subjective reality constructions of those who are against civil defense because they feel that the U.S. should not spend any money at all on defense by separating them from those who do want a strong U.S. defense capability but feel that the money is better spent if it is used on expanding the U.S. nuclear strike force.

The independent attitude data provide a simple, solid foundation to study any main belief alternatives reaching proportions of a certain prominence. At the same time, they offer an empirically based linkage to apply the results of our in-depth assessment to the main public survey results.

Since the survey results give among other things, the breakdown of the population in percentages of those "for", "against", and "undecided" on any specific subject, the results of the AGA based in-depth analysis can be used to show how these different categories of respondents differ in their subjective meanings, reality construction related to that particular subject.

Since a national survey is in the position to give attitude data on a nationwide basis, it provides an opportunity to use the results of our in-depth study based on much smaller samples and make certain projections on a much wider scale. How far one can go in this direction is left open at this point. However, experience with elements of this proposed procedure suggests that to weight the results of the in-depth analysis based on the public survey data is a distinct possibility which would allow us to take optimal advantage of both approaches.

Parallel to splitting the sample used in the AGA analysis along attitudinal groupings, there is ample opportunity to form and compare also subgroups based on such classical socio-demographic parameters as age, sex, income, etc. In certain contexts such comparisons may be particularly

insightful while in other contexts they may be less so. How insightful such comparisons will be depends naturally on the degree of perceptual variance controlled by a particular variable such as sex or age. The results of the present research are informative on this point. Whether such breakdowns may be useful will depend on the interest expressed by management.

APPENDIX I

This appendix presents the original response lists. These include all the shared reactions produced by our respondents in the context of the issues and themes discussed in the main body of this report.

In agreement with the broadly accepted conceptual model, subjective images and meanings are composed of a variety of main perceptual and evaluative components of varying saliences. Following this model, the assessment of subjective meanings requires the reproduction of the main perceptual and evaluative components in their relative weight proportionate with their actual saliences.

Since most of our readers will not be interested in all the meaning components, the main body of our report discusses only a few most salient ones. There is some inescapable arbitrariness in this choice, and some of our readers may be interested in a more complete picture, or in some additional details. The extensive response distributions presented here may be useful in two ways.

The content analytic approach used in this form of analysis includes some of the subjective decisiveness of categorization. While the process described in Appendix II pp. 8-11 was designed to reduce subjectivity, it is desirable to give the reader an opportunity to see the actual responses obtained. This may help the interested reader to develop a better sense for what the respondents had in mind.

Also the reader may have some special interest in details missed by our analysis or our discussion. The reader provided with the inclusive response lists has the opportunity to review people's actual responses with their actual saliences as conveyed by the score values.

DISASTER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
NATURAL, FLOOD, TORNADO	1522	1487
nature, al	184	106
flood, s, ing	436	409
tornado, s	263	261
earthquake	255	221
hurricane, s	262	234
cyclone	-	21
weather	15	19
volcano, s	34	38
Mount St. Helens	15	-
drought, s	16	27
rain	16	6
snow	-	14
storm, s	26	98
water	-	12
wind	-	21

WAR, ATTACK, BOMBING	289	414
war, s	152	312
nuclear war	80	28
attack	8	17
bomb, s, ing	49	39
explosion	-	18

NUCLEAR, CHEMICAL	149	124
nuclear	98	83
Three Mile Island	19	-
man-made	32	27
chemical, spill	-	14

ACCIDENT, FIRE	255	487
accident, s	39	112
fire, s	168	284
plane crash	-	19
crash	4	10
wreck, s	-	16
emergency cars	44	29
	-	17

Main Components	Percentage of Total Score	Students	Adults
NATURAL, FLOOD, TORNADO	43	40	
WAR, ATTACK, BOMBING	8	11	
NUCLEAR, CHEMICAL	4	3	
ACCIDENT, FIRE	7	13	
DANGEROUS, BAD, TERRIBLE	8	8	
DESTRUCTION, RUINS, CHAOS	10	5	
DEATH, ILLNESS, PAIN	13	10	
HELP, RELIEF, RED CROSS	3	5	
PEOPLE, FAMILY	2	4	
MISCELLANEOUS	1	1	
Total Scores	3555	3756	

DESTRUCTION, RUINS, CHAOS	351	177
damage	17	45
destroy, ing	31	15
destruction	172	55
devastation	-	13
chaos	30	-
havoc	11	-
loss	14	43
mess	32	-
area	14	-
ruin, ed	30	6

DANGEROUS, BAD, TERRIBLE	279	285
danger, ous	42	38
bad	43	44
catastrophe	35	11
terrible	52	18
trouble	30	25
hopeless	-	10
horrible	9	10
crisis	12	35
many	-	13
panic	18	11
problem, s	-	20
awful	-	28
big	11	-
tragedy	27	-
unexpected	-	??

Main Components and Responses	S	A
DEATH, ILLNESS, PAIN	478	391
death, s	289	152
holocaust	8	31
sickness	10	9
illness	-	19
disease	16	13
famine	11	43
hunger	6	11
hurt	10	24
injury	17	11
pain	46	31
sorrow	14	-
sad, ness	27	12
suffering	8	12
harm, ful	7	10

HELP, RELIEF, RED CROSS	120	190
help	25	88
aid	11	17
money	10	-
food	-	11
life	13	-
National Guard	18	-
Red Cross	31	9
hospital	-	11
relief	12	17
preparedness	-	22
planning	-	15

PEOPLE, FAMILY	86	148
family	10	21
homeless	24	14
people	20	40
personal	-	15
national	21	30
man	-	10
Ethiopia	11	-
children	-	18

MISCELLANEOUS	26	53
hole	-	10
financial	-	15
divorce	12	-
don't know	-	13
unknown	-	15
relationship	14	-

TORNADO

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
WINDS, BLOWING, TWISTER	1242	1187
disaster	201	183
wind, s, y	590	675
high wind, s	19	9
blow, ing	25	22
spin, ning	19	-
spiral	12	-
funnel, cloud	83	173
swirl, ing	50	15
twister, s	130	66
whirl, ing	27	-
whirlwind	28	29
cyclone	68	15
STORM, CLOUDS, RAIN	657	648
storm, s	147	150
hail	6	20
thunder	10	6
cloud, s	39	66
rain	84	117
flood, s	37	25
black clouds/sky	48	28
water	20	24
dark clouds/sky	49	47
weather	59	78
hurricane	86	43
lightening	-	10
dirt	12	-
dust, y	60	34
DISASTER, DESTRUCTION	731	860
disaster	201	183
natural disaster	51	-
destroy	23	37
nature	20	13
destruction, ive	323	406
devastating, ion	33	51
loss	10	32
damage, s, ing	64	120
homeless	6	18
KANSAS, MIDWEST	357	243
Kansas	152	92
Midwest	73	80
Texas	33	11
Iowa	62	22
Minnesota	18	-
Ohio	5	14
prairie	-	10
flat land, s	14	-
south	-	14

Main Components and Responses	S	A
WIZARD OF OZ	294	117
Wizard of Oz	216	77
Toto	19	-
Dorothy	59	40
SHELTER, BASEMENT	92	180
basement	55	34
protect, ion	-	19
run	-	14
shelter, s	37	87
cellar	-	26
WARNING, SIRENS	180	147
radio	9	10
watch	43	14
alert	10	-
warning, s	47	92
siren, s	25	18
emergency	46	13
STRONG, UNPREDICTABLE	85	111
force	-	11
strong	13	4
sudden	-	11
power, ful	24	36
unpredictable	17	14
violent	12	10
fast	19	15
quick	-	10
TREES, HOUSES	86	146
trees	14	26
car, s	35	9
home, s	-	41
house, s	37	44
building, s	-	26
MISCELLANEOUS	43	71
eye	14	11
people	9	23
path	-	11
family	4	17
summer	16	9

Main Components	Percentage of Total Score	Students Adults
WINDS, BLOWING, TWISTER	30	28
STORM, CLOUDS, RAIN	16	15
DISASTER, DESTRUCTION	18	20
KANSAS, MIDWEST	9	6
DEATH, DANGEROUS, SCARY	8	11
HELP, RED CROSS	0	1
WIZARD OF OZ	7	3
SHELTER, BASEMENT	2	4
WARNING, SIRENS	4	3
STRONG, UNPREDICTABLE	2	3
TREES, HOUSES	2	3
MISCELLANEOUS	1	2

Total Scores 4096 4222

DEATH, DANGEROUS, SCARY	314	451
death	152	188
bad	5	29
hurt	5	21
injury	3	13
danger, ous	56	88
fear	41	66
scary	43	36
frightening	9	10
HELP, RED CROSS	15	61
food	-	19
help	15	19
Civil Defense	-	11
Red Cross	-	12

FLOOD

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
WATER, RAIN, RIVER	1706	1512
water,s	837	771
flash	54	-
overflow,ing	51	30
rain	212	174
wet	72	36
gush	10	-
pour	10	-
raging	12	-
river,s	202	226
ocean	-	14
tide,s	-	13
snow, melting	10	14
storm,s	23	19
hurricane	26	35
tidal wave	12	-
melting snow	-	7
natural, disaster	37	-
nature	11	6
deluge	14	9
mud	90	129
dirt	-	18
cold	23	11

Main Components and Responses	S	A
DAM, SANDBAGS, LEVEES	141	125
dam,s	63	111
sandbags	78	72
levee,s	-	23
dike,s	-	15
control	-	33

Main Components	Students	Adults
WATER, RAIN, RIVER	45	38
DESTRUCTION, DISASTER	18	18
RESCUE, HELP, EVACUATE	7	10
DEATH,DROWNING,DANGEROUS	10	9
DAM, SANDBAGS, LEVEES	4	6
MISSISSIPPI, NEW ORLEANS	4	3
BOATS, FLOATING	6	5
HOUSE, TREES, CROPS	3	5
NOAH'S ARK, ANIMALS	2	3
MISCELLANEOUS	1	2

MISSISSIPPI, NEW ORLEANS	157	125
South	26	-
West Virginia	-	11
Mississippi	30	51
New Orleans	10	-
beach	11	-
California	29	-
Louisiana	29	11
Johnstown	-	10
land	-	12
plain,s	22	30

Total Scores 3820 3928

DESTRUCTION, DISASTER	672	770
destruction	159	214
destroy	28	26
ruin,s	25	30
damage	69	86
loss,t	36	85
lost property	9	10
tragic	-	11
catastrophe	14	-
disaster	225	193
emergency	93	30
crisis	14	10
mess	-	15

DEATH,DROWNING,DANGEROUS	397	363
death	175	128
drown,ing,s	150	131
danger,ous	48	65
loss of life	9	18
suffering	-	10
blood	15	-
disease	-	11

BOATS, FLOATING	227	194
float,ing	47	6
swim,ing	42	31
boat,s	138	154

HOUSE, TREES, CROPS	101	193
home,s	22	38
house,s	40	53
basement	7	25
trees	13	18
car,s	6	25
crops	13	34

NOAH'S ARK, ANIMALS	83	102
Noah's Ark	62	71
ark	14	-
animals	7	31

MISCELLANEOUS	56	85
boats	15	-
people	16	42
fire	-	19
spring,time	14	24
pants	11	-

RESCUE, HELP, EVACUATE	280	393
rescue	16	20
help,ing	39	58
help others	-	10
aid	6	17
evacuate,ion	38	16
roof, tops	-	13
high water	-	28
high	8	17
high ground	6	15
safety	-	14
Red Cross	55	45
National Guard	18	22
food	10	17
relief	10	17
insurance	40	20
money	8	20
homeless	26	33
clean up	-	11

HAZARDS

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
DANGER, HARMFUL, DEATH	807	659
danger, s	326	277
dangerous	73	42
bad	25	14
harmful	33	11
health ---	76	59
threats	-	15
risk, s, y	31	115
hurt	15	6
trouble, s	34	7
emergency	30	7
unsafe	23	11
death	50	13
loss	-	10
injury	8	11
many	18	-
pain	9	18
everywhere	-	20
problem, s	56	23

Main Components and Responses	S	A
CARS, DRIVING, SMOKING	360	318
car, s	66	57
auto, mobile	-	26
accident, s	46	99
driving	50	13
drunk driving	17	-
traffic	9	15
road, s	84	57
smoking	48	25
cigarettes	11	6
cancer	14	7
drugs	15	13

WAR, GUNS	101	125
war	64	86
nuclear war	5	10
bomb, s	4	19
guns	17	-
knives	11	-

FLOOD, FIRE, DISASTER	277	489
flood, s	30	69
storms	10	28
tornado, s	35	22
weather	11	28
wind	-	45
disaster, s	12	-
natural	8	26
earthquake	10	34
fire, s	109	147
rain	26	22
snow	16	11
slip, pery	10	8
heat	-	10

CHEMICAL, NUCLEAR, WASTE	526	677
chemical, s	104	100
nuclear	64	161
nuclear waste	48	36
pollution	23	33
radiation, active	18	18
toxic, waste	16	-
poison, s	46	45
pesticides	-	10
waste, s	111	155
water	59	92
electrical, city	37	13
man-made	-	15

Main Components	Percentage of Total Score	Students Adults
DANGER, HARMFUL, DEATH	28	24
FLOOD, FIRE, DISASTER	10	17
CHEMICAL, NUCLEAR, WASTE	18	25
WARNING, CAUTION	13	7
RED LIGHTS, SIGNS	9	1
CARS, DRIVING, SMOKING	13	12
WAR, GUNS	4	5
OBSTACLES, OBJECTS	3	6
MISCELLANEOUS	3	3

Total Scores 2853 2703

WARNING, CAUTION	378	195
warning, s	155	46
beware	17	-
caution	48	17
careful	35	14
stay away	13	-
avoid, able	54	18
chance, s	-	17
protection	12	6
safety	44	55
insurance	-	12
help	-	10

RED LIGHTS, SIGNS	244	32
light, s	116	24
yellow	16	-
blinking lights	21	-
red lights	24	-
sign, s	57	8
labels	10	-

OBSTACLES, OBJECTS	73	169
obstacles	-	50
hole, s	9	18
barriers	-	11
pitfall, s	-	18
sharp objects	11	-
ice	9	31
pits	-	14
cliff, s	12	9
golf	32	8
sand trap	-	10

MISCELLANEOUS	87	78
Dukes of	27	23
planning	-	10
people	11	19
buzzards	10	-
life	15	7
fear	13	9
worry	11	-
living	-	10

RISK

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
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CHANCE, TAKE, GAMBLE	1035	771
chance,s	372	308
take,n,ing	63	83
take chances	18	-
taker	15	8
gamble,ing	119	112
decision,s	27	-
try	18	85
game	250	48
bet	14	11
dare,ing	56	93
brave,ry	22	-
courage,ous	30	15
attempt	19	-
choice	12	8

DANGER, HAZARD, JOB, WAR	569	608
danger,ous	335	261
hazard,ous	36	9
threat	-	25
unsafe	17	24
trouble	17	-
area	-	30
warning	12	-
job,s	11	31
problem,s	14	-
fire	-	10
driving	11	28
sky diving	18	-
flying	-	20
war	56	89
nuclear	-	13
bomb,s	-	16
nuclear war	15	12
defense	-	11
sex	27	-
car,s	-	25

ADVENTURE, FUN, EXCITING	262	120
adventure	63	25
travel	-	10
fun	69	26
excitement,ing	72	25
challenge	58	34

Main Components	Students	Adults
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CHANCE, TAKE, GAMBLE	37	30
DANGER, HAZARD, JOB, WAR	20	24
ADVENTURE, FUN, EXCITING	9	5
FEAR, UNCERTAINTY	6	8
NECESSARY, SAFE, GOOD	3	7
MONEY, REWARD	6	7
LIFE, DEATH, HEALTH	10	12
FACTORS, CALCULATED, ODDS	8	6
MISCELLANEOUS	1	1

Total Scores 2811 2556

FEAR, UNCERTAINTY	164	207
fear,ful	31	43
scary	42	46
uncertain,ty	23	10
unknown	7	18
unsure	23	10
bad	7	32
failure	8	17
lose, loss	23	31

NECESSARY, SAFE, GOOD	93	189
necessary	15	69
caution	17	7
avoid	-	10
worthwhile	11	-
safe,ty	5	46
good	19	47
Careful	18	-
luck	8	10

Main Components and Responses	S	A
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MONEY, REWARD	169	182
money	52	82
investment	14	18
gain	31	9
profit	-	14
business	36	8
stock market	19	26
reward	-	25
economic	9	10
venture	8	10

LIFE, DEATH, HEALTH	270	297
life	173	130
death	29	15
health	21	28
harm	-	15
people	14	24
insurance	22	75
smoking	11	-
heart	-	10

FACTORS, CALCULATED, ODDS	212	155
factor,s	33	20
possibility	20	21
probability	11	-
calculated	17	29
control,led	-	19
odds	18	-
chancy	24	-
high risk	69	48
low risk	12	-
risky,ness	8	18

MISCELLANEOUS	37	31
relationship	14	10
love	23	10
personal	-	11

EMERGENCY

Main Components and Responses	S	A
HELP, RESCUE, SHELTER	414	645
help	260	275
aid	55	59
evacuate, ion	12	21
rescue	29	25
safety	14	46
shelter	13	30
food	13	30
hide	8	19
care	23	30
need, help	-	41
plan	-	28
prepare	-	37
exit	-	21
response	-	-

DANGER, THREAT	239	135
dangerous	150	53
threat	10	18
trouble	64	39
problem	15	25

AMBULANCE, DOCTOR, HOSPITAL	850	916
ambulance	269	194
hospital, s	178	178
room, emergency	34	34
doctor, s	69	107
nurse, s	30	47
paramedics	10	13
police, man	130	149
rescue squad	-	10
fire department	9	10
Red Cross	30	9
first-aid	12	26
blood	28	13
vehicle	9	34
C.P.R.	19	10
medical	18	39
medicine	5	18
services	-	13
surgery	-	12

PANIC, FEAR	244	103
panic	136	21
fear	39	41
chaos	18	-
confusion	12	-
scary	16	8
scream	7	11
adrenaline	4	12
stay calm	-	10
calmness	-	12

PERCEPTIONS AND EVALUATIONS

Main Components	Students	Adults
HELP, RESCUE, SHELTER	11	18
DANGER, THREAT	7	4
AMBULANCE, DOCTOR, HOSPITAL	23	25
PANIC, FEAR	7	3
WARNING, SIRENS, LIGHTS	9	4
911, TELEPHONE	3	4
DISASTER: FLOOD, FIRE, WAR	18	22
ACCIDENT, HURT, DEATH	8	9
QUICK, HURRY, URGENT	12	8
MISCELLANEOUS	1	4

Total Scores 3666 3634

WARNING, SIRENS, LIGHTS	348	160
warning	30	21
alarm	38	-
red	84	18
siren, s	51	73
flashing light	14	10
light, s, ing	20	11
T.V.	70	-
broadcast	18	-
information	11	10
Emergency Broadcast System	12	-
communication	-	17

911, TELEPHONE	108	140
911	41	38
phone	21	37
phone number	-	10
telephone	39	18
cell, s	7	36

MISCELLANEOUS	44	135
child, ren	-	22
money	-	13
people	-	25
family	-	28
car	-	36
calm	5	11
bad	13	-
watch	12	-
T V show	11	-

Main Components and Responses	S	A
DISASTER: FLOOD, FIRE, WAR	672	782
disaster	128	105
situation	9	10
crisis	51	90
weather	15	19
natural	11	-
tornado	47	36
flood	65	85
hurricane	29	22
earthquake	19	25
storm	6	14
water	-	12
fire	157	216
national	19	13
war	73	84
bomb	-	20
nuclear	22	21
destruction	21	-
explosion	-	10

ACCIDENT, HURT, DEATH	310	313
accident, s	99	125
injury	26	7
pain	19	15
heart, attack	24	18
hurt	50	35
illness	9	22
health	-	25
sick, ness	6	17
death	77	39
epidemic	-	10

QUICK, HURRY, URGENT	437	305
quick, ly	93	43
now	9	50
immediate	29	29
hurry	55	50
rush	34	9
fast	47	24
speed	-	14
run	28	21
urgent, cy	31	15
quick action/thinking	16	-
action	18	33
priority	5	10
important	29	7
unexpected	17	-
surprise	13	-
sudden	13	-

EMERGENCY PREPAREDNESS

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
READY, ALERT, AWARENESS	350	142
ready	165	69
readiness	46	11
alert	31	7
prepared	23	-
preparation	7	10
precaution	19	-
awareness	32	9
prevention	13	-
time	-	11
hurry	13	18
quick	13	7

GOOD, NECESSARY, HELP	355	203
good	57	26
necessary	74	51
needed	26	53
helpful	81	52
important	31	-
aid	25	8
smart	33	-
do not panic	10	-
calm	18	10

PLANNING, TRAINING	211	360
plan, ned,ning	36	135
plans	10	29
organized, tion	9	25
knowledge, able	24	42
learn	4	10
books	-	10
instruction	-	10
educated, ion	6	28
training, ed	62	33
practice	23	14
fire drill	-	7
school	-	6
get ready	12	-
management	-	11
merit badge	10	-
Boy Scout, s	15	-

Main Components	Students	Adults
READY, ALERT, AWARENESS	16	6
GOOD, NECESSARY, HELP	16	8
PLANNING, TRAINING	10	15
SHELTER, FOOD, SAFETY	23	37
DISASTER, BOMBS, WAR	7	9
GOVERNMENT, MILITARY	11	9
HOSPITALS, FIRST-AID	13	7
WARNINGS, MEDIA	2	5
COSTLY, USELESS	2	3
MISCELLANEOUS	1	1

Total Scores 2200 2410

SHELTER, FOOD, SAFETY	501	897
shelter, s	120	206
basement	-	10
fall-out shelter	-	12
food	115	267
supply, ies	27	46
extra food	11	-
water	38	130
flashlight	20	-
blankets	19	8
safety	71	47
clothes, ing	10	44
evacuation	13	30
run	16	-
family	10	43
people	31	44
self	-	10

DISASTER, BOMBS, WAR	154	219
disaster	38	21
war	51	86
nuclear	-	10
emergency	-	17
fire	8	22
flood	6	23
storm	-	13
bomb, s	6	17
disident	15	-
crisis	-	10
disaster	-	10

Main Components and Responses	S	A
GOVERNMENT, MILITARY	233	207
government	6	48
U.S.	13	7
country	-	10
civil defense	37	46
police	20	21
military	24	19
defense	55	34
national guard	26	-
army	24	-
planes	6	12
missiles	11	-
weapons	11	10
guns	10	-

HOSPITALS, FIRST-AID	294	158
hospital, s	54	33
Red Cross	50	26
ambulance	56	8
doctor, s	19	10
medical	9	19
medicine	10	12
first-aid	56	35
C.P.R.	26	-
bandages	14	15

WARNINGS, MEDIA	36	110
warnings, s	6	37
lights	9	10
information	-	14
radio	7	42
T.V.	14	7

COSTLY, USELESS	54	80
costly	-	12
not good	10	-
not ready	12	11
wasteful	-	11
money	14	-
useless	6	20
impossible	-	14
no time	-	12
none	12	-

MISCELLANEOUS	12	34
are we?	12	-
community	-	12
understand	-	11
peace	-	11

EMERGENCY EVACUATION

Main Components and Responses	S	A
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FLOOD, FIRE, RADIATION	654	350
flood,s	224	127
tornado	79	19
volcano	10	12
hurricane	41	15
earthquake	56	30
snow	-	12
storm	12	15
fire,s	159	77
gas, leak	13	8
three mile island	13	-
chemical,s	-	22
nuclear	26	13
radiation	21	-

WAR, BOMBS	317	185
war	175	134
nuclear war	42	-
attack	14	7
explosion	15	7
bomb,s	58	37
bomb threat	13	-

SHELTER, SAFETY	168	310
shelter,s	71	108
home,s	12	35
school,s	-	20
place,s	27	9
hide	52	76
safety	-	21
calm	6	18
food	-	11
good	176	377

CAR, TRAFFIC, PLANE	176	377
car,s	39	111
truck,s	37	41
bus,es	-	16
ambulance	25	9
highways	-	12
road block	-	13
roads	-	29
traffic jam	22	11
traffic	6	21
helicopter	28	14
plane,s	25	18
vehicle	-	15
boat,s	-	24
ship	-	11
trains	-	10

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
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PEOPLE, CROWDS	92	240
people	45	96
city,ies	-	14
crowd,s,ed	8	37
children	8	13
family	11	36
elderly	-	10
government	7	20
country	-	14
life	13	-

WARNING, SIRENS	65	71
warning	20	21
radio	15	20
siren,s	16	30
fire drill	14	-

PANIC, CHAOS, FEAR	349	222
panic	114	48
confusion,ed,ing	31	74
hysteria	11	8
chaos,otic	26	7
fear	66	48
scary,ed	34	18
worry	13	-
scream	12	-
mess	-	15
sad	15	-
pain	10	-
homeless	17	4

IMPOSSIBLE, WHERE?	44	242
impossible	19	41
where?	15	97
forget it	-	13
difficult	-	29
why?	5	16
how?	5	16
hopeless	-	10
who?	-	10
unrealistic	-	10

Main Components	Students	Adults
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FLOOD, FIRE, RADIATION	20	11
WAR, BOMBS	10	6
SHELTER, SAFETY	5	10
QUICK, HURRY	9	7
RUN, LEAVE, MOVE	12	7
CAR, TRAFFIC, PLANE	5	12
DANGER, DISASTER, DEATH	15	9
HELP, RED CROSS, POLICE	6	12
PEOPLE, CROWDS	3	8
WARNING, SIRENS	2	2
PANIC, CHAOS, FEAR	11	7
IMPOSSIBLE, WHERE?	1	8

Total Scores 3245 3071

QUICK, HURRY	305	219	DANGER, DISASTER, DEATH	490	288
quick,ly	102	34	danger	147	52
fast	70	75	dangerous	22	-
rush,ing	42	10	death	59	31
time	20	8	destruction	29	17
hurry	35	56	disaster,s	144	117
immediate	14	-	emergency	18	10
necessary	22	9	trouble	52	14
order,ly	-	16	crisis	19	30
possible	-	11	loss	-	17

RUN, LEAVE, MOVE	398	213	HELP, RED CROSS, POLICE	187	354
run,ning	107	53	help,ful	64	78
run away	11	-	rescue	-	13
flee	10	-	plan,ed,ning	-	82
leave,ing	131	61	prepare	-	18
get out	25	-	Red Cross	55	20
move,ing	69	67	National Guard	27	12
movement	11	-	police	31	33
escape	17	12	needed	-	13
exit	-	20	civil defense	10	25
relocate,ion	17	-	C.P.R.	-	26
			hospital	-	19
			organized,tion	-	15

F.E.M.A.

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
GOVERNMENT, BUREAUCRACY	487	460
government	210	187
federal	-	29
national	-	13
agency, government/federal	-	52
bureaucracy, tic	118	121
Washington, D.C.	20	-
business	11	-
committee	13	-
organization	44	7
political	12	8
president	-	24
red tape	32	19
U.S.	27	-

DISASTERS, EMERGENCIES	168	92
disasters	81	32
crisis	14	15
death	12	-
emergency, ies	40	28
floods	21	17

HELP, PROTECT, NECESSARY	523	234
help	150	86
helpful	65	24
aid	57	-
protection	35	9
Red Cross	27	-
hospital, s	10	11
safety	24	20
security	13	-
control	21	14
precaution	11	-
food	-	10
good	18	11
good idea	13	-
necessary	37	20
needed	11	20
important	31	9

CIVIL DEFENSE, MILITARY	38	109
civil defense	13	55
National Guard	7	14
defense	8	11
Pentagon	-	10
police	-	19
military	10	-

Main Components	Percentage of Total Score	Students	Adults
GOVERNMENT, BUREAUCRACY	26	28	6
DISASTERS, EMERGENCIES	9	6	14
HELP, PROTECT, NECESSARY	28	14	7
CIVIL DEFENSE, MILITARY	2	7	4
MONEY, BUDGET	5	4	4
WAR, BOMBS	4	4	4
PLAN, ORGANIZE	4	11	16
UNKNOWN, NEVER HEARD OF	6	6	7
WASTE, INEFFECTIVE	2	0	0
TEST, RESEARCH, \$10	10	3	4
MISCELLANEOUS	3	-	-
Total Scores	1870	1670	-

MONEY, BUDGET	95	72
money	86	61
budget	9	11
WAR, BOMBS	78	73
war	46	44
nuclear war	14	-
nuclear attack	8	19
bomb	10	-
	-	10

Main Components and Responses	S	A
PLAN, ORGANIZE	78	183
plans	15	54
preparation, edness	15	18
work	14	10
training	-	17
network	-	10
organize, d	7	20
manages, ment	27	-
information	-	22

UNKNOWN, NEVER HEARD OF	115	274
don't know	33	122
unknown	30	88
never heard of	37	-
none	-	13
who?	-	13
what?	15	18
why?	-	10
?	-	10

WASTE, INEFFECTIVE	38	109
useless	32	22
waste, ful	6	45
ineffective	-	14
impractical	-	15
boring	-	13

TEST, RESEARCH, \$10	195	0
word association	88	-
research	15	-
\$10	71	-
test	15	-
University of Pittsburgh	11	-
thanks	15	-

MISCELLANEOUS	55	64
fear	7	10
people	28	23
new	10	10
farmers	10	10
poor	-	11

EMERGENCY MANAGEMENT OFFICER

Main Components and Responses	S	A
GOVERNMENT, BUREAUCRAT	115	272
government	60	135
federal	-	14
local	-	28
organization	10	11
bureaucrat	23	51
business	12	-
F.E.M.A.	10	23
civil	-	10

HELP, SAFETY, NECESSARY	384	361
help,er,for	160	128
aid	26	12
protect,ion	29	8
safety	21	10
security	13	-
guide	-	22
assist	-	10
shelter	-	23
trust	-	14
information	-	26
need,ed	33	39
important	62	-
good	9	20
necessary	20	30
precaution	11	-
preparation	-	21

CONTROL, PLAN, RESPONSIBLE	300	219
control	37	53
in charge	48	23
planning	6	46
planner	11	-
authority	28	33
decisions	16	-
order,s	28	8
organize,d	8	17
organizer	15	7
manage	10	-
responsible,ity	72	13
trained,ing	30	19

PERCEPTIONS AND EVALUATIONS

Main Components	Students	Adults
GOVERNMENT, BUREAUCRAT	5	13
HELP, SAFETY, NECESSARY	18	18
BOSS, LEADER, PEOPLE	31	25
CONTROL, PLAN, RESPONSIBLE	14	11
CALM, INTELLIGENT, STRONG	9	7
DISASTER, CRISIS, WAR	8	5
WHO?, UNKNOWN, USELESS	7	14
CIVIL DEFENSE, RED CROSS	6	5
MISCELLANEOUS	2	3
Total Scores	2120	2041

BOSS, LEADER, PEOPLE	655	511
boss	34	33
head	16	29
chief	9	12
leader	103	62
warden	-	10
captain	14	-
official	71	62
officer	15	-
president	23	15
uniform	31	-
position	20	-
police	92	80
fireman,men	21	21
badge	12	-
manager,ment	-	31
coordinator	-	10
director	-	10
doctor	-	22
public	-	10
people	9	39
person	59	17
man, male	35	42
employee	10	-
title	21	-
job	30	-
office	19	6
volunteer	11	-

Main Components and Responses	S	A
CALM, INTELLIGENT, STRONG	189	134
calm	50	25
communicate	10	-
intelligent	12	17
quick, thinking	30	-
smart	9	11
knowledge,able	21	30
strong	10	-
tough	17	-
tough job	-	13
difficult	-	13
busy	-	11
stress	12	-
work,er	18	14
DISASTER, CRISIS, WAR	170	101
disaster	57	21
emergency	16	-
trouble	22	-
destruction	10	-
crisis	23	15
war	22	55
problem	20	-
air-raid	-	10

WHO?, UNKNOWN, USELESS	149	288
who?	51	69
where?	5	26
why?	-	17
what?	36	13
unknown	35	52
don't know	12	59
no reaction	-	13
useless	10	29
costly	-	10

CIVIL DEFENSE, RED CROSS	118	101
civil defense	15	53
military	41	9
Red Cross	12	19
National Guard	10	-
Army	40	9
defense	-	11

MISCELLANEOUS	40	54
money	17	30
red	13	-
hospital	10	-
equipment	-	14
move	-	10

CIVIL DEFENSE

Main Components and Responses	S	A
MILITARY, NATIONAL GUARD	621	360
military	80	22
Army	180	37
Navy	59	22
airforce	35	10
marines	33	-
Coast Guard	12	11
National Guard	75	62
soldiers	15	-
reserves	10	-
people	47	67
worker,s	6	16
volunteer,s	20	40
police	42	19
warden	-	23
leader,s	7	17
men	-	14

WEAPONS, BOMBS	209	66
weapons	65	15
guns	38	12
bomb,s	63	39
missiles	22	-
tanks	21	-

WAR, EMERGENCY, DISASTER	518	335
war	238	141
attack	17	6
nuclear attack	10	-
nuclear war	30	13
nuclear	22	23
air-raid	22	46
defend,se	17	-
invasion	13	-
death	21	-
fight,ing	41	-
riots	18	-
disaster	20	39
emergency,ies	37	48
tornado	12	19

PLAN, PREPAREDNESS	116	311
plan,s,ning	39	61
prepared,ness	23	76
prepare,ation	-	53
practice	-	13
drill,s	10	22
alert	13	10
organize,ation	-	38
system	31	17
training	-	21

PERCEPTIONS AND EVALUATIONS

Main Components	Students	Adults
MILITARY, NATIONAL GUARD	25	14
WEAPONS, BOMBS	8	2
WAR, EMERGENCY, DISASTER	21	13
SHELTER, PROTECTION, HELP	17	30
PLAN, PREPAREDNESS	5	12
GOVERNMENT, U.S.	9	5
MONEY, BUDGET	5	1
NEED, IMPORTANT	4	6
WARNING, SIREN	4	13
USELESS, UNPREPARED	1	2
MISCELLANEOUS	1	2
Total Scores	2502	2644

Main Components and Responses	S	A
GOVERNMENT, U.S.	233	119
government	80	65
nation	12	-
U.S.	35	-
U.S.S.R.	25	18
Reagan	57	9
president	14	-
community	10	-
F.E.M.A.	-	23

MONEY, BUDGET	123	22
money	64	8
budget	25	-
spending	15	-
expensive	19	14

NEED, IMPORTANT	100	168
need,ed	23	65
rights	13	-
important	26	9
good	12	36
necessary	26	58

WARNING, SIREN	89	352
warning,s	10	85
broadcast	10	-
siren,s	50	183
sign,s	-	15
radio	19	57
horn	-	12

USELESS, UNPREPARED	35	62
useless	12	19
inadequate	11	-
don't know	-	20
where?	-	11
unprepared	-	12
joke	12	-

MISCELLANEOUS	25	57
jobs	-	12
possible	-	13
peace	-	12
fear	11	-
the 50's	14	9
15th	-	11

SHELTER, PROTECTION, HELP	433	792
shelter,s	54	185
bomb shelter	10	17
protect,ion	198	125
security	27	52
safety	61	43
help,ful	68	123
aid	-	30
food	6	47
water	5	18
Red Cross	-	34
evacuate,ion	-	16
place	-	12
building,s	-	20
basement	-	10
cooperation	-	10
patrol	-	12
helmet,s	4	26
hard hats	-	12

CRISIS RELOCATION

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
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MOVE, EVACUATE	459	402
move, ing	255	222
movement	64	37
evacuate, ion	66	29
relocate	11	-
leave	16	8
run, away	14	-
go	-	12
change	14	-
quick	12	-
hurry	-	10
time	-	14
speed	-	10
roads	-	12
transportation	-	25
car	7	13
separation	-	10
SHELTER, RED CROSS, FOOD	358	438
shelter, s	87	78
fall-out shelter	11	-
school, s	29	51
church, es	25	34
house, s, ing	16	19
Red Cross	91	59
Center	-	14
home	12	57
temporary	11	22
underground	15	11
food	22	41
clothing	-	11
money	27	17
place	-	14
slums	12	-
space	-	12

SAFETY, HELP, PROTECTION	297	270
safety	79	28
help, ful	73	83
assistance	-	11
protection	9	20
aid	11	-
plan, ned, ing	8	58
civil defense	12	-
National Guard	15	-
hospital	-	11
police	6	21
communication	-	12
hotline	11	-
warning	6	12
beneficial	10	-
important	22	-
needed	12	14
necessary	23	-

Main Components and Responses	S	A
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CONFUSION, FEAR, WHERE?	179	216
confusion	8	40
chaos	23	-
anxiety	12	-
panic	22	12
traffic jam	6	13
fear	27	32
crying	4	10
sed	21	-
pain	17	7
don't know	12	33
where?	29	53
why?	-	16

IMPOSSIBLE, DIFFICULT	40	80
impossible	12	17
no way	11	-
no	-	12
bullshit	10	-
difficult	7	30
unpleasant	-	11
question	-	10

FAMILY, PEOPLE	62	171
family	25	47
friends	6	10
people	33	78
volunteers	10	-
children	-	14
Japanese	11	-
refugees	-	22

GOVERNMENT, CITY	42	62
government	33	22
president	-	10
city, les	9	30

MISCELLANEOUS	22	62
new	10	-
job, s	-	20
possible	-	13
control	-	11
more	12	-
work	-	18

DISASTER, EMERGENCY, WAR	631	493
disaster	127	84
emergency	96	59
danger	50	19
trouble	35	14
loss, es, lost	28	41
homeless	19	13
no home	10	-
problem, s	26	28
fire	17	15
flood, s	79	36
tornado	6	17
hurricane	5	10
war	74	96
nuclear	22	14
attack	4	11
nuclear war	16	-
bomb, s	-	29
death	17	7

FALLOUT SHELTER

Main Components and Responses	S	A
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SAFETY, PROTECTION, LIFE	689	614
safety	236	199
protection	166	110
hiding	66	19
security	13	17
civil defense	10	15
save	-	11
survival	46	35
prepare,d	-	20
good	-	10
necessary	17	28
needed	21	28
help	10	18
life	29	-
people	36	45
family	39	59

WAR, BOMBING, DEATH	792	437
war	308	136
war II	8	13
air-raid	8	12
bomb,s,ing	205	156
explosion	-	20
death	109	42
destruction	43	13
disaster	29	17
emergency	30	10
danger	33	18
tornado	19	-

NUCLEAR, RADIATION	416	214
nuclear	134	96
nuclear war	86	22
nuclear attack	24	-
radiation,ioactive	172	86
atomic	-	10

MISCELLANEOUS	62	31
peace	-	10
jock strap	10	-
brassiere	12	-
U.S.S.R.	26	8
wait,ing	14	-
me	-	13

PERCEPTIONS AND EVALUATIONS

Main Components	Students	Adults
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SAFETY, PROTECTION, LIFE	21	21
WAR, BOMBING, DEATH	24	15
NUCLEAR, RADIATION	13	7
BASEMENT, UNDERGROUND	21	21
FOOD, WATER, SUPPLIES	5	21
DARK, CROWDED, USELESS	10	11
FEAR, PANIC	4	3
THE 50'S	2	2
MISCELLANEOUS	2	1

Total Scores	3317	2995
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BASEMENT, UNDERGROUND	685	627
basement,s	113	156
cellar	-	10
underground	166	178
bomb shelter	11	12
shelter	23	11
yellow sign	21	8
sign,s	30	9
siren, warning	13	17
home	17	11
house	6	15
backyard	-	20
cave	-	34
hole	36	23
box	11	-
place	-	12
building,s	-	13
school,s	90	-
subway,s	-	17
down	-	11
temporary	8	12
concrete	44	35
cement	43	23
lead	22	-
thick wall	21	-
cover	10	-

Main Components and Responses	S	A
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FOOD, WATER, SUPPLIES	178	625
food	113	259
canned goods/food	18	15
cans	-	11
water	38	163
air	-	40
supplies	9	29
medical,cine	-	14
stock,ed	-	16
radio	-	26
light	-	15
blanket,s	-	12
clothing	-	25

DARK, CROWDED, USELESS	316	315
dark,ness	82	85
cold	39	28
small	44	-
crowd,ed,ing	61	56
cramped	-	14
damp	-	17
dirt	14	-
useless	60	41
no	-	20
impossible	-	11
impractical	-	14
old	10	-
outdated	-	10
antiquated	-	12
waste	-	15
unnecessary	6	12

FEAR, PANIC	117	80
fear	32	19
scary,ed	44	23
where?	4	18
panic	27	20
sad	10	-

THE 50'S	62	52
the 50's	39	42
Happy Days	18	-
the 60's	5	10

BLAST SHELTER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	S	A
WAR, NUCLEAR, FALL-OUT	469	342
war	207	174
WW II	20	-
planes	12	-
air-raid	10	48
nuclear	57	58
nuclear war	30	23
nuclear blast	-	13
fall-out	91	47
radiation	42	39

BOMBS, EXPLOSION	531	219
bomb, s, ing	353	171
explosion	91	36
debris	14	-
bomb scare	11	-
guns	21	-
noise, y	20	12
loud	21	-

UNDERGROUND, BASEMENT	373	402
underground	185	141
basement	32	76
cellar	-	24
fall-out shelter	23	13
bomb shelter	37	22
shelter	14	12
home	-	11
building	6	22
cave	18	29
subway	-	30
ground	10	-
hole	19	12
hole in wall	10	-
location	-	10
cover	19	-

CONCRETE, STEEL	193	176
concrete	63	76
cement	45	24
steel	26	13
sturdy	12	-
hardened	-	11
thick, wall	20	-
deep	-	32
sand, bars	19	-
strong	8	20

Main Components	Students	Adults
WAR, NUCLEAR, FALL-OUT	17	13
BOMBS, EXPLOSION	19	9
UNDERGROUND, BASEMENT	14	16
PROTECTION, SAFETY	25	23
CONCRETE, STEEL	7	7
DARK, CROWDED, USELESS	8	16
FOOD, WATER	2	8
DESTRUCTION, DEATH	6	6
MISCELLANEOUS	1	2

Total Scores 2757 2561

PROTECTION, SAFETY	694	598
protect, ed, ion	218	147
safe, ty	239	156
secure, ity	33	23
survive, a)	10	34
hide, ing, den	69	17
run, n, ing	15	7
life	13	-
help	33	39
people	26	51
family	17	24
civil defense	8	37
siren, s	-	11
necessary	18	10
good	11	-
first aid	-	10
need, ed	-	32

Main Components and Responses	S	A
DARK, CROWDED, USELESS	219	401
dark	52	45
cold	24	-
crowded	31	23
small	15	-
inadequate	-	13
useless	33	69
stupid	19	-
impractical	-	10
unnecessary	-	11
dumb	-	12
waste	-	30
expensive	7	17
why	4	29
impossible	-	11
where?	-	41
not available	-	10
none	-	10
scary, ed	24	18
fear	10	21
don't know	-	20
don't want	-	11

FOOD, WATER	68	212
food	41	89
water	15	63
dried food	-	10
canned goods	-	-
supplies	-	12
clothes, ing	-	15
heat	-	11
air	-	12

DESTRUCTION, DEATH	179	162
destruction	25	13
disaster	9	25
emergency	6	11
fire	28	32
danger	18	18
death	82	53
blackouts	-	10
furnace	11	-

MISCELLANEOUS	31	49
U.S.S.R.	8	15
silo	-	12
Eisenhower	-	10
test, ing	8	12
temporary	15	-

CIVIL DEFENSE VOLUNTEER

Main Components and Responses	S	A
HELP, AID	389	391
help,ing	117	155
helpful	166	75
helper	60	96
rescue	-	10
aid	46	43
guide	-	12

MILITARY, NATIONAL GUARD	285	39
military	36	-
Army	75	24
National Guard	90	15
Air Force	10	-
fight,ing	14	-
soldier	12	-
draft	17	-
minutemen	11	-
weapons	10	-
guns	10	-

SHELTER, PROTECTION	263	265
shelter,s	18	81
bomb shelter	6	11
sign	-	13
siren,s	9	43
protect,ion	44	10
protector	24	-
safety	44	36
Red Cross	78	24
first-aid	7	24
life	22	-
food	-	23
home	11	-

GOOD, PATRIOTIC, CARING	347	408
good	135	105
necessary	15	35
need,ed	29	89
important	-	21
brave	38	11
patriot,ic	32	-
dedicated	-	22
give,ing	18	7
caring	27	23
concerned	33	10
knowledge, able	-	14
authority	-	14
defend,ing	14	-
admirable	-	15
peace	-	11
useful	-	12

PERCEPTIONS AND EVALUATIONS

Main Components	Students	Adults
HELP, AID	19	19
MILITARY, NATIONAL GUARD	14	2
SHELTER, PROTECTION, SAFET	13	13
GOOD, PATRIOTIC, CARING	17	19
DISASTER, WAR, EMERGENCY	11	9
PEOPLE, MEN, CITIZENS	10	21
TRAINING, PREPAREDNESS	3	6
HELMET, HARD HAT	3	6
CRAZY, NO PAY	6	3
MISCELLANEOUS	3	3

Total Scores 2035 2102

CRAZY, NO PAY	132	66
crazy	26	17
stupid	12	-
who?	-	12
no pay	21	-
unpaid	25	-
unemployed	11	-
paid	10	-
useless	7	12
not needed	8	13
free	12	-
public spies	-	12

MISCELLANEOUS	65	66
England	-	10
U.S.	10	-
old	23	-
government	16	11
communication	-	10
t time	16	35

Main Components and Responses	S	A
DISASTER, WAR, EMERGENCY	221	184
disaster,s	31	45
war	115	61
WW II	-	28
emergency	36	24
fire	12	9
blackout,s	6	17
death	10	-
tornado	11	-

PEOPLE, MEN, CITIZENS	207	448
people	22	101
person	26	50
man, men, male	42	45
woman	-	37
me	10	10
nurse	14	-
police	16	7
friend	-	20
volunteer,s	12	10
warden	-	19
fireman	9	13
worker	13	54
citizen	12	12
neighbor	11	24
neighborhood	-	17
community	6	29
country	14	-

TRAINING, PREPAREDNESS	70	117
trained,ing	30	73
work	24	10
prepared,ness	16	21
plan	-	13

HELMET, HARD HAT	56	118
helmet	16	31
hat	-	29
hard hat	10	22
white, hat	19	-
arm band	-	10
green	11	-
radio	-	26

DISASTER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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NATURAL, FLOOD, TORNADO	1601	1526
nature, a	153	145
flood, s, ing	448	483
tornado, s	251	269
hurricane, s	231	262
earthquake	265	214
cyclone	12	11
volcano	44	39
Mt. St. Helens	10	6
snow	14	-
storm	69	48
rain	14	7
water	-	14
weather	24	9
wind	24	-
drought, s	21	19
hail	11	-
hole	10	-

WAR, ATTACK, BOMBING	495	329
war, s	252	203
nuc. war	48	64
nuc. attack	-	15
attack	18	7
bomb, s, ing	151	33
explosion	13	7
riots	13	-

NUCLEAR, CHEMICAL	143	100
nuclear	91	87
T.M.I.	10	-
man-made	42	13

ACCIDENT, FIRE	279	451
accidents	34	106
plane crash	18	7
fire, s	169	273
car/auto accident	-	14
wreck, s	16	-
emergency	31	40
crash	11	-
fall	-	11

Main Components	Percentage of Total Score	Males	Females
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NATURAL, FLOOD, TORNADO	45	40
WAR, ATTACK, BOMBING	14	9
NUCLEAR, CHEMICAL	4	3
ACCIDENT, FIRE	8	12
DANGEROUS, BAD, TERRIBLE	5	8
DESTRUCTION, RUIN, CHAOS	6	7
DEATH, ILLNESS, PAIN	11	14
HELP, RELIEF, RED CROSS	5	4
PEOPLE, FAMILY	2	3
MISCELLANEOUS	1	1

Total Scores	3584	3810
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DANGEROUS, BAD, TERRIBLE	195	321
dangerous	24	49
bad	35	55
catastrophe	26	21
terrible	32	37
tragedy	-	29
crisis	13	29
unexpected	10	-
awful	6	11
trouble	26	44
problem	11	-
panic	-	26
big	-	13
horrible	12	7

DESTRUCTION, RUIN, CHAOS	210	266
damage	32	23
ruin, ed	13	25
destruction	125	145
devastation	-	12
chaos	-	20
mess	-	22
losses	40	19

Main Components and Responses	M	F
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DEATH, ILLNESS, PAIN	397	531
death, s	202	233
holocaust	18	20
sickness	18	14
illness	-	18
famine	30	36
hunger	7	10
injury, ies	26	12
pain	36	41
suffering	21	-
fear	-	26
sorrow	13	5
hurt	11	23
sad, ness	-	40
disease	7	24
doom	8	-
harm	-	19

HELP, RELIEF, RED CROSS	162	135
help	48	55
aid	10	23
money	7	10
Red Cross	17	24
relief	21	17
planning	10	-
preparedness	15	6
National Guard	24	-
need	10	-

PEOPLE, FAMILY	59	123
people	20	37
homeless	-	29
family	17	14
national	-	38
world	12	-
personal	10	5

MISCELLANEOUS	43	28
financial	-	14
unknown	-	14
relationship	12	-
property	10	-
semester	10	-
why	11	-

TORNADO

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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WINDS, BLOWING, TWISTER	1110	1050
wind, s.y	582	655
high wind, s	24	-
blow	22	20
spinning	18	7
spiral	3	12
funnel	128	123
twirl	39	29
twister	141	56
whirl, ing	13	18
whirlwind	21	36
cyclone	50	34
circle	7	12
touch down	10	4
cold	-	13
dust	52	31

STORM, CLOUDS, RAIN	546	666
storm, s	135	163
hail	4	19
thunder	10	4
cloud	39	58
rain	91	104
flood, s	17	47
water	15	28
weather	77	62
black cloud, s	12	5
dark, dark sky	48	43
black	29	38
hurricane	61	70
nature	8	25

DISASTER, DESTROY, DAMAGE	764	776
disaster	205	235
destroy	26	32
destruction, ive	373	342
devastating	35	46
loss	8	30
damage, ing	117	61
homeless	-	20
havoc	-	10

HELP, RED CROSS	30	29
food	13	5
help	17	14
Red Cross	-	10

Main Components and Responses	M	F
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WIZARD OF OZ	181	238
Wizard of Oz	129	166
Dorothy	39	65
Toto	13	7

SHELTER, BASEMENT	117	125
basement	24	61
run	11	-
shelter	67	58
cellar	15	6

WARNING, SIRENS	157	175
watch	10	52
alert	-	10
warning, s	82	57
siren	22	27
emergency	43	18
drills	-	11

STRONG, UNPREDICTABLE	97	71
force	10	10
power, ful	43	14
unpredictable	19	13
violent	8	11
fast	17	23

TREES, HOUSES	127	136
trees	17	23
car	42	13
home, s	18	23
house, s	34	57
buildings	6	10
window	-	10
property	10	-

MISCELLANEOUS	72	53
people	18	21
eye	-	19
family	12	6
summer	19	7
lives	13	-
Xenia	10	-

Main Components	Males	Females
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WINDS, BLOWING, TWISTER	29	26
STORM, CLOUDS, RAIN	14	17
DISASTER, DESTROY, DAMAGE	20	19
KANSAS, MIDWEST	8	7
DEATH, DANGEROUS, SCARY	8	11
HELP, RED CROSS	1	1
WIZARD OF OZ	5	6
SHELTER, BASEMENT	3	3
WARNING, SIRENS	4	4
STRONG, UNPREDICTABLE	3	2
TREES, HOUSES	3	3
MISCELLANEOUS	2	1

Total Scores 3829 4014

KANSAS, MIDWEST	307	264
Kansas	108	138
Midwest	75	69
Texas	31	8
Iowa	46	32
Minnesota	13	-
Ohio	6	13
Oklahoma	17	-
South	11	4

DEATH, DANGEROUS, SCARY	321	431
death	175	159
bad	15	21
hurt	4	18
injury	10	10
danger, ous	67	73
fear	31	73
scary	19	59
frightening	-	18

FLOOD

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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WATER, RAIN, RIVER	1618	1630
water, s	802	809
flash	17	43
overflow	25	42
rain	209	180
wet	34	74
gush	-	13
raging	-	11
river	240	190
ocean	9	10
high, high water	25	20
snow	20	6
storm	20	7
hurricane	42	27
tidal wave	13	-
deluge	10	13
cold	19	10
mud, muddy water	88	132
nature	6	19
natural disaster	19	24
fast	10	-
flood	10	-

Main Components	Percentage of Total Score	Males	Females
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WATER, RAIN, RIVER	43	41
DESTRUCTION, DISASTER	19	18
HOUSE, TREES, CROPS	3	5
RESCUE, HELP, EVACUATE	7	8
DEATH, DROWNING, DANGEROUS	10	10
DAM, SANDBAGS, LEVEES	6	4
MISSISSIPPI, NEW ORLEANS	3	3
BOATS, FLOATING	6	5
NOAH'S ARK, ANIMALS	1	4
MISCELLANEOUS	1	2

Total Scores 3772 3993

DESTRUCTION, DISASTER	729	727
destruction	166	190
destroy	21	24
ruin	22	36
damage	92	63
tragic	-	10
catastrophe	12	7
disaster	226	195
emergency	68	61
crisis	-	20
loss	44	60
lost	14	-
mess	13	6
bad	14	12
fire	24	8
earthquake	13	-
sad	-	13
scary	-	22

HOUSE, TREES, CROPS	124	200
house	44	47
homes, floating/destroyed	18	55
basement	6	25
trees	7	16
car, s floating	17	23
crops	11	22
property, lost	21	12

Main Components and Responses	M	F
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DEATH, DROWNING, DANGEROUS	362	304
death	160	146
drown, ing, s	108	163
danger	44	62
loss of life, lives	22	7
blood	10	-
victims	18	6

DAM, SANDBAGS, LEVEES	232	176
sandbags	85	58
dam	76	88
levee, s	20	-
dikes	15	-
control	26	9
walls	-	11
bridges	-	10

MISSISSIPPI, NEW ORLEANS	120	118
south	12	10
West Virginia	-	10
Mississippi	50	31
New Orleans	-	12
California	21	8
Louisiana	19	22
plain	18	25

BOATS, FLOATING	219	210
float	26	33
swimming	35	46
boat, s	158	131

NOAH'S ARK, ANIMALS	52	153
ark	-	27
Noah	19	88
Noah's Ark	13	10
animals	7	28
cattle	13	-

MISCELLANEOUS	50	71
people	15	39
pants	12	-
spring	23	17
boots	-	15

HAZARDS

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
DANGER, HARMFUL, DEATH	693	895
danger, s	306	309
dangerous	17	93
bad	20	20
harmful	32	38
health --	56	79
risk, s	87	38
risky	-	71
hurt	-	14
trouble, s	29	34
unsafe	9	38
death	24	41
injury	9	10
many	20	-
pain	-	20
everywhere	22	-
problems	33	44
emergency	9	28
unwanted	10	-
loss	10	-
fear	-	18

FLOOD, FIRE, DISASTERS	183	349
flood, s	33	44
weather	17	18
wind	15	21
disaster, s	-	19
natural	17	18
earthquake	11	34
rain	9	35
fire	81	160

CHEMICAL, NUCLEAR, WASTE	792	440
chemical	147	76
waste, s	180	89
nuclear waste	74	17
nuclear --	153	71
pollution	14	32
radiation	20	9
poison, s	15	66
water	97	55
electrical	31	25
man-made	10	-
food	10	-
gas	11	-
dump, s	16	-
contamination	14	-

Main Components and Responses	M	F
WARNING, CAUTION	195	219
warning, s	73	125
caution	37	25
careful	15	34
avoid, able	48	29
protection	12	6
chance	10	-

RED LIGHTS, SIGNS	115	95
light, s	78	79
blinking lights	11	-
flashing lights	-	9
red lights	26	7

CARS, DRIVING, SMOKING	272	289
car, s	40	71
automobile	9	13
accident, s	154	91
driving	41	28
drunk driving	-	19
cigarettes	-	20
drugs	-	24
alcohol	-	12
planes	10	11
fall, ing	18	-

WAR, GUNS	83	119
war	74	84
bomb	9	21
nuclear war	-	14

OBSTACLES, OBJECTS	152	75
obstacles	32	30
holes	10	5
pits, pitfalls	18	-
ice	19	24
cliffs	13	-
golf	36	6
trees	10	-
construction	-	10
mountain, s	14	-

MISCELLANEOUS	62	56
life, living	22	6
Dukes of --	22	31
people	8	19
Prussian	10	-

RISK

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
CHANCE, TAKE, GAMBLE	930	862
chance.s	321	354
take chances	14	8
gamble	164	76
decision.s	13	14
take --	75	67
risk taker	10	7
try	43	56
game	223	91
bet	15	-
dare	42	102
brave	10	19
courage	-	44
attempt	-	11
options	-	13

DANGER, HAZARD, JOB, WAR	593	567
danger	248	222
dangerous	29	106
hazard	19	18
threat	14	13
unsafe	13	41
area	30	-
problems	-	16
warning	10	5
job	21	21
driving.car	12	43
flying	10	11
war	98	48
nuclear --	13	11
nuclear war	15	12
defense	11	-
sex	20	-
swimming	10	-
get caught	10	-
avoid	10	-

ADVENTURE, FUN, EXCITING	126	276
adventure	9	74
fun	41	65
excitement	25	79
challenge	39	44
travel	-	14
venture	12	-

Main Components	Percentage of Total Score	Males	Females
CHANCE, TAKE, GAMBLE	35	33	
DANGER, HAZARD, JOB, WAR	22	22	
ADVENTURE, FUN, EXCITING	5	11	
FEAR, UNCERTAINTY	5	8	
NECESSARY, SAFE, GOOD	8	4	
MONEY, REWARD	6	5	
LIFE, DEATH, HEALTH	12	11	
FACTORS, CALCULATED, ODDS	6	5	
MISCELLANEOUS	0	2	

Total Scores 2654 2621

FEAR, UNCERTAINTY	132	222
fearful	9	53
scary	-	80
uncertain	25	14
unsure	14	13
bad	11	29
lose	42	17
failure	16	9
unnecessary	15	7

NECESSARY, SAFE, GOOD	203	111
good	25	34
caution	22	-
necessary	47	35
worthwhile	-	11
safe	39	6
careful	8	13
help	19	-
trust	10	-
important	-	12
win	11	-
worth	11	-
benefit	11	-

Main Components and Responses	M	F
MONEY, REWARD	168	118
money	56	57
investment	6	10
gain	17	19
business	30	11
stock market	26	10
reward	17	11
costly	16	-

LIFE, DEATH, HEALTH	322	278
life	131	172
death	18	27
health	32	17
harm	12	6
people	26	12
insurance	65	34
smoking	8	10
injury	13	-
heart	17	-

FACTORS, CALCULATED, ODDS	167	138
factor	13	30
possibility, les	23	12
probability, les	15	-
calculated	23	22
chancy	-	16
risky	16	-
luck	11	7
high	56	51
low	10	-

MISCELLANEOUS	13	49
relationship	6	15
love	7	21
everything	-	13

EMERGENCY

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
HELP, RESCUE, SHELTER	539	480
aid	294	243
evacuation	15	6
rescue	14	16
safety	22	24
shelter	30	25
food	19	9
need	20	27
care	4	11
plan	31	6
prepare, d	-	23
prevention	11	-
door	10	-
exit	-	27
response	18	-

DANGER, THREAT	198	172
dangerous	95	112
threat	17	-
trouble	50	51
problem, s	36	14

AMBULANCE, DOCTOR, HOSPITAL	788	978
ambulance	196	267
hospital, s	128	224
room	22	44
doctor, s	65	110
nurse, s	36	36
paramedics	10	15
police, man	153	121
civil defense	12	-
fire department	32	-
Red Cross	15	24
first-aid	24	21
blood	14	32
vehicle	15	29
C.P.R.	12	14
medical	35	31
medicine	19	10
PANIC, FEAR	140	214
panic	86	78
fear	26	52
chaos	8	14
tension	10	-
confusion	10	-
scary, ed	-	25
scream	-	17
cry	-	10
sadness	-	18

Main Components	Percentage of Total Score	Males	Females
HELP, RESCUE, SHELTER	16	13	
DANGER, THREAT	6	5	
AMBULANCE, DOCTOR, HOSPITAL	23	27	
PANIC, FEAR	4	6	
WARNING, SIRENS, LIGHTS	6	8	
911, TELEPHONE	2	4	
DISASTER: FLOOD, FIRE, WAR	24	16	
ACCIDENT, HURRY, DEATH	9	9	
QUICK, HURRY, URGENT	8	12	
MISCELLANEOUS	2	1	

Total Scores 3431 3688

WARNING, SIRENS, LIGHTS	209	296
warning	32	21
alarm	28	19
red	25	71
siren, s	42	84
light, s	11	24
red light, s	4	13
flashing lights	-	11
T.V.	43	31
Information	12	9
Emergency Broadcast System	12	-
communication	12	-

911, TELEPHONE	82	149
911	34	45
phone, number	13	43
telephone	14	42
call, s	21	19

MISCELLANEOUS	72	34
people	10	7
child, ren	6	11
stop	12	-
local	12	-
calm	17	-
family	15	16

Main Components and Responses	I	F
DISASTER: FLOOD, FIRE, WAR	821	601
disaster	112	106
situation	10	-
crisis	73	72
weather	25	9
natural	12	-
tornado	46	35
flood	86	57
hurricane	35	17
earthquake	35	16
storm	18	-
fire	199	168
national	12	18
war	86	71
attack	17	8
bomb	-	10
nuclear	30	-
destruction	15	7
bad	10	7

ACCIDENT, HURRY, DEATH	305	315
accident, s	129	93
car crash/accident	-	19
car	15	5
injury	23	-
pain	7	27
hurt	33	52
health	18	-
heart attack	-	23
sickness	14	18
death	66	52
drowning	-	14
epidemic	-	12

QUICK, HURRY, URGENT	277	445
quick, ly	63	78
now	30	31
immediate	17	40
hurry	25	77
rush	23	21
fast	19	49
speed	7	10
run	10	38
urgent, cy	19	28
action	37	14
priority	15	-
important	12	34
surprise	-	13
sudden	-	12

EMERGENCY PREPAREDNESS

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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READY, ALERT, AWARENESS	286	221
ready, alert	190	124
prepared	22	20
precaution	18	18
awareness	17	17
prevention	28	8
hurry	10	10
quick	13	13
fast	18	11

GOOD, NECESSARY, HELP	210	338
good	24	55
necessary	24	99
needed	24	52
helpful	62	16
helping	11	21
important	11	12
aid	30	7
smart	11	11
do not panic	13	20
calm		

PLANNING, TRAINING	274	242
planning	88	88
plans	18	24
organized, action	21	12
knowledge, able	35	34
training, ed	58	32
education	10	14
practice	22	18
drills	20	20
management	11	11
merit badge	11	11

DISASTER, BOMBS, WAR	267	130
disaster	99	28
war	34	40
nuclear	10	10
emergency	17	17
fire	30	9
flood	29	7
weapons	15	15
storm	10	10
bomb, s	16	16
crisis	10	10
death	12	22
hardships	11	11

Main Components	Percentage of Total Score	Males	Females
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READY, ALERT, AWARENESS	14	9
GOOD, NECESSARY, HELP	10	14
PLANNING, TRAINING	13	10
SHELTER, FOOD, SAFETY	29	32
DISASTER, BOMBS, WAR	13	6
GOVERNMENT, MILITARY	10	8
HOSPITALS, FIRST-AID	6	14
WARNINGS, MEDIA	2	3
COSTLY, USELESS	2	2
MISCELLANEOUS	0	1

Total Scores 2096 2349

SHELTER, FOOD, SAFETY	604	743
shelter, s	142	175
basement	-	12
fall-out shelter	-	11
food	189	186
supplies	-	54
extra food	-	11
water	85	79
flashlight	-	20
blankets	8	12
safety	62	59
clothes, ing	24	29
evacuation	17	25
run	-	11
family	31	21
people	36	38
health	10	-

Main Components and Responses	M	F
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GOVERNMENT, MILITARY	214	182
government	22	20
U.S.	6	14
civil defense	52	22
police	20	21
Reagan	-	13
military	12	30
defense	68	14
National Guard	11	19
office of	-	12
army	-	11
local	11	-
planes	12	6

HOSPITALS, FIRST-AID	131	340
hospital, s	7	71
Red Cross	34	31
ambulance	18	46
doctor, s	-	30
medical	17	12
medicine	-	35
nurse, s	4	13
first-aid	34	61
C.P.R.	-	22
bandages	17	19

WARNINGS, MEDIA	48	89
warning, s	18	22
information	4	10
radio	26	21
T.V.	-	16

COSTLY, USELESS	52	92
costly	-	11
not good	11	-
not ready	-	12
money	-	12
useless	20	-
impossible	-	17
none	21	-

MISCELLANEOUS	10	32
some	-	12
peace	-	10
understand	-	10
hard	10	-

F.E.M.A.

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
GOVERNMENT, BUREAUCRACY	367	513
government	158	230
federal agency	15	12
federal	21	14
agency	114	113
bureaucracy, tic	-	34
politics, cal	8	10
business	12	36
organization	-	10
program	9	20
president	30	22
red tape		

DISASTERS, EMERGENCIES	165	101
disaster.s	70	66
crisis	15	14
emergency	45	13
flood.s	35	8

HELP, PROTECT, NECESSARY	277	473
help, ful	150	184
aid	15	51
protect, ion	39	22
Red Cross	35	6
hospital.s	-	22
safety	7	31
security	13	-
control	8	27
good	-	26
good idea	-	10
necessary	-	40
needed	10	20
important	-	34

CIVIL DEFENSE, MILITARY	139	82
Civil Defense	62	19
National Guard	20	10
defense	9	11
pentagon	18	-
military	6	16
U.S.	24	14
national	-	12

Main Components	Percentage of Total Score	Males	Females
GOVERNMENT, BUREAUCRACY	21	30	
DISASTERS, EMERGENCIES	9	6	
HELP, PROTECT, NECESSARY	16	27	
CIVIL DEFENSE, MILITARY	8	5	
MONEY, BUDGET	4	6	
WARS, NUCLEAR	5	3	
PLAN, ORGANIZE	7	5	
UNKNOWN, NEVER HEARD OF	10	12	
WASTE, INEFFECTIVE	5	2	
TEST, RESEARCH, \$10	11	2	
MISCELLANEOUS	4	3	

GOVERNMENT, BUREAUCRACY	21	30
DISASTERS, EMERGENCIES	9	6
HELP, PROTECT, NECESSARY	16	27
CIVIL DEFENSE, MILITARY	8	5
MONEY, BUDGET	4	6
WARS, NUCLEAR	5	3
PLAN, ORGANIZE	7	5
UNKNOWN, NEVER HEARD OF	10	12
WASTE, INEFFECTIVE	5	2
TEST, RESEARCH, \$10	11	2
MISCELLANEOUS	4	3

Total Scores 1781 1732

MONEY, BUDGET	67	99
money	54	92
budget	13	7

WARS, NUCLEAR	84	54
war.s	53	46
nuclear war	10	-
nuclear	21	9

Main Components and Responses	M	F
PLAN, ORGANIZE	131	87
planning	28	22
plans	26	9
Prepare, action, edness	18	8
work	8	16
alert	10	-
network	10	-
organize, ed	8	19
information	13	13
knowledge	10	-

UNKNOWN, NEVER HEARD OF	187	204
don't know	64	86
unknown	45	57
never heard of	30	16
no idea	10	-
who?	-	22
what?	28	17
why?	10	6

WASTE, INEFFECTIVE	92	38
useless	48	8
waste, ful	30	20
ineffective	14	-
impractical	-	10

TEST, RESEARCH, \$10	199	32
word association	62	17
research	-	15
\$10	74	-
test	22	-
University of Pittsburgh	12	-
thanks	17	-
this test	12	-

MISCELLANEOUS	73	49
farmers	-	13
acronym	17	-
new	11	9
martial law	10	-
people	24	27
poor	11	-

EMERGENCY MANAGEMENT OFFICER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
GOVERNMENT, BUREAUCRAT	220	186
government	88	103
federal	10	-
local	18	9
organization	22	-
bureaucrat	42	31
appointed	7	10
red tape	-	16
business	10	7
F.E.M.A.	23	10

HELP, SAFETY, NECESSARY	334	340
help, full	147	108
helper	22	17
aid	30	10
protection	15	21
safety	19	16
security	18	-
guide	-	20
shelter	19	7
trust	14	-
needed	32	28
important	18	46
good	-	24
necessary	-	42

BOSS, LEADER, PEOPLE	482	590
boss	37	21
head	-	33
chief	-	16
leader	74	92
warden	10	-
official	61	72
officer	10	-
president	18	32
uniform	12	19
position	11	7
management	33	11
E.M.O.	13	-
fireman	10	16
police	91	82
coordinator	10	-
doctor	-	20
people	7	33
person	53	32
man, male	18	51
title	-	12
job	-	24
office	-	17
volunteer	14	-

Main Components and Responses	M	F
CALM, INTELLIGENT	105	188
calm	25	46
intelligent	-	12
smart	-	10
quick	7	11
power	19	-
alert	-	17
knowledge, able	20	34
tough	-	17
tough job	13	-
difficult	13	-
worker	8	21

DISASTER, CRISIS, WAR	166	91
disaster	56	20
emergency	23	-
trouble	-	12
flood	12	-
crisis	23	31
war	52	28

WHO?, UNKNOWN, USELESS	226	174
who?	64	49
where?	10	9
why?	18	6
what?	33	23
unknown	39	36
don't know	40	36
useless	22	15

CIVIL DEFENSE, RED CROSS	146	89
civil defense	52	10
military	31	21
Red Cross	13	17
National Guard	11	-
army	24	29
defense	15	12

MISCELLANEOUS	47	62
civil	15	-
red	-	13
equipment	-	13
money	10	18
information	12	6
communication	-	12
move	10	-

Main Components	Males	Females
GOVERNMENT, BUREAUCRAT	11	9
HELP, SAFETY, NECESSARY	17	17
BOSS, LEADER, PEOPLE	25	29
CONTROL, PLAN, RESPONSIBLE	12	16
CALM, INTELLIGENT	5	8
DISASTER, CRISIS, WAR	8	5
WHO?, UNKNOWN, USELESS	12	9
CIVIL DEFENSE, RED CROSS	7	4
MISCELLANEOUS	2	3
Total Scores	1953	2016

CONTROL, PLAN, RESPONSIBLE	227	316
control	32	57
in charge	22	37
planning	25	37
authority	41	11
decision, s	8	16
direct, s	-	21
duty	-	12
regulate, ion	14	-
order, s	18	16
organize, d	-	29
organizer	9	12
responsibility	35	41
trained, ing	23	27

CIVIL DEFENSE

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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MILITARY, NATIONAL GUARD	468	513
military	34	69
army	103	120
navy	40	38
Airforce	27	16
Marines	18	18
National Guard	82	51
Coast Guard	14	9
civil defense	11	-
militia	12	-
soldiers	-	12
reserves	11	5
people	53	57
citizens	-	12
volunteer,s	29	21
police	28	39
leader,s	6	24
men	-	22

WEAPONS, BOMBS	113	148
weapons	14	69
guns	20	34
bomb,s	66	33
missiles	13	-
planes	-	12

WAR, EMERGENCY, DISASTER	508	354
war	194	187
attack	17	12
air-raid,s	43	15
nuclear attack	13	-
nuclear war	19	19
nuclear	31	15
radiation	12	-
defend,se	23	-
invasion	11	-
death	13	12
fight,ing	8	34
disaster	44	15
emergency,ies	51	45
tornado	29	-

PLAN, PREPAREDNESS	164	207
plan,s,ning	53	42
prepared,ness	26	57
prepare,ation	31	27
drill,s	9	31
alert	14	9
organize,ation	8	23
system	23	18

Main Components and Responses	M	F
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GOVERNMENT, U.S.	120	242
government	36	103
nation	13	-
U.S.	10	32
U.S.S.R.	18	25
politics	-	11
Washington, D.C.	-	10
Reagan	20	47
president	-	14
F.E.N.A.	23	-

MONEY, BUDGET	48	83
money	28	53
budget	10	17
expensive	-	13
costly	10	-

NEED, IMPORTANT	77	167
need,ed	23	55
important	12	23
good	32	20
necessary	10	69

WARNING, SIREN	204	207
warning,s	42	33
broadcast	11	-
siren,s	105	124
radio	35	39
sign	11	-
horn	-	11

USELESS, UNPREPARED	71	34
bad	11	-
useless	24	11
waste	14	-
inadequate	12	-
don't know	-	12
ineffective	10	-
unprepared	-	11

MISCELLANEOUS	17	51
possible	-	12
15th	-	10
the 50's	17	7
children	-	12
spirit	-	10

Main Components	Percentage of Total Score	Males	Females
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MILITARY, NATIONAL GUARD	20	19
WEAPONS, BOMBS	5	6
WAR, EMERGENCY, DISASTER	21	13
SHELTER, PROTECTION, HELP	25	24
PLAN, PREPAREDNESS	7	8
GOVERNMENT, U.S.	5	9
MONEY, BUDGET	2	3
NEED, IMPORTANT	3	6
WARNING, SIREN	9	8
USELESS, UNPREPARED	3	1
MISCELLANEOUS	1	2

Total Scores	2377	2640
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SHELTER, PROTECTION, HELP	587	634
shelter,s	132	107
bomb shelter	28	-
fall-out shelter	10	-
protect,ion	119	201
secure,ity	28	55
safe,ty	45	55
help,ful	101	85
evacuation	11	-
survive,al	14	-
aid	21	8
food	26	22
water	13	16
Red Cross	8	23
helmet,s	13	20
hard hat,s	8	11
uniforms	-	10
place	-	11
basement	10	-
home	-	10

CIVIL DEFENSE VOLUNTEER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
HELP, AID	391	392
help,ing	154	108
helpful	119	131
helper	56	100
aid	40	53
guide	11	-
try	11	-

MILITARY, NATIONAL GUARD	151	184
military	12	25
army	32	68
Navy	-	14
civil defense	12	-
National Guard	61	43
air force	-	10
soldier	10	-
draft	-	17
minutemen	12	-
guns	12	7

SHELTER, PROTECTION, SAFETY	291	194
shelter,s	65	37
bomb shelter	15	-
sign	10	-
siren,s	33	16
protect,ion	24	36
protector	10	15
safety	52	30
Red Cross	56	52
food	14	8
home	12	-

GOOD, PATRIOTIC, CARING	357	389
good	142	106
necessary	20	31
needed	50	65
important	-	17
brave	-	49
patriot,ic	12	15
dedicated	10	20
give,ing	2	19
caring	37	25
understand,ing	10	-
concerned	32	7
defend,ing	11	4
admirable	-	20
useful	-	11
willing	21	-
yes	10	-

Main Components and Responses

DISASTER, WAR, EMERGENCY	318	156
disaster,s	69	10
crisis	19	-
destruction	10	-
wartime	-	10
war	111	69
WW II	11	21
bomb	11	-
emergency	54	9
fire	9	12
blackout,s	7	15
tornado	11	-
flood	6	10

PEOPLE, MEN, CITIZENS	361	269
people	89	32
person	55	21
man,men,male	7	73
father	-	10
woman	6	25
me	24	-
police	11	16
volunteer,s	31	9
warden	12	-
fireman	20	-
worker	46	26
citizen	9	15
neighbor	10	24
neighborhood	10	6
community	20	12
country	11	-

TRAINING, WORK, PREPARED	102	89
trained,ing	50	57
work	23	9
job	-	11
ready	10	-
prepared,ness	19	12

HELMET, HARD HAT	130	56
helmet	48	16
hat	18	11
hard hat	22	12
white hat	17	-
green	-	11
whistle	10	-
radio	15	6

Main Components	Percentage of Total Score	Males	Females
HELP, AID	17	21	
MILITARY, NATIONAL GUARD	7	10	
SHELTER, PROTECTION, SAFETY	13	11	
GOOD, PATRIOTIC, CARING	16	21	
DISASTER, WAR, EMERGENCY	14	9	
PEOPLE, MEN, CITIZENS	16	15	
TRAINING, WORK, PREPARED	5	5	
HELMET, HARD HAT	6	3	
CRAZY, NO PAY	3	3	
MISCELLANEOUS	3	2	

Total Scores 2244 1828

CRAZY, NO PAY	75	59
crazy	14	16
no pay	10	12
unpaid	-	20
unemployed	12	-
useless	15	-
don't know	13	-
no	11	-
public spies	-	11

MISCELLANEOUS	68	40
old	20	-
government	12	15
England	10	-
time	26	25

CRISIS RELOCATION

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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MOVE, EVACUATE	508	353
move,ing	247	233
movement	77	28
evacuate,ion	77	29
relocate	12	-
leave	-	19
transfer	11	-
run, away	9	12
quick	13	5
hurry	10	-
travel	-	13
transportation	14	7
car,s	16	7
trucks	10	-
roads	12	-

SHELTER, RED CROSS, FOOD	298	413
shelter,s	46	115
school,s	29	49
church,es	23	41
Red Cross	69	82
home,s	53	18
temporary	23	10
camp,s	-	15
underground	-	15
food	46	21
money	9	34
place	-	13

SAFETY, HELP, PROTECTION	278	268
safety	55	54
help,ing	63	78
helpful	12	19
protection	12	11
life,ive	13	-
plan,ed,ning	44	19
defense	11	-
civil defense	13	-
National Guard	14	-
hospital	-	10
police	14	10
communication	-	11
hotline	-	11
beneficial	-	10
needed	17	11
necessary	-	24
good	10	-

Main Components and Responses	M	F
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CONFUSION, PANIC, FEAR	103	164
confusion	6	37
chaos	19	-
anxiety	-	12
lost	23	5
panic	11	16
fear	26	37
crying	14	-
scared,y	-	13
frightening	-	11
sad	-	21
pain	4	12

IMPOSSIBLE, NO, WHERE?	147	98
impossible	21	14
no way	12	-
no	12	-
waste	10	-
don't know	20	12
where?	52	23
bullshit	-	10
difficult	7	33
traffic jam	13	6

FAMILY, PEOPLE	102	166
family,ies	28	54
friends	12	-
people	52	57
crowded	-	11
volunteers	-	14
children	-	10
refugees	10	20

GOVERNMENT, CITY	62	45
government	23	21
city,ies	12	16
country,side	17	8
Israel	10	-

MISCELLANEOUS	40	26
new	-	14
more	-	12
force	10	-
work	19	-
control	11	-

Main Components	Percentage of Total Score	Males	Females
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MOVE, EVACUATE	24	17
SHELTER, RED CROSS, FOOD	14	20
SAFETY, HELP, PROTECTION	13	13
DISASTER, EMERGENCY, WAR	27	27
CONFUSION, PANIC, FEAR	5	8
IMPOSSIBLE, NO, WHERE?	7	5
FAMILY, PEOPLE	5	8
GOVERNMENT, CITY	3	2
MISCELLANEOUS	2	1

Total Scores	2116	2103
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DISASTER, EMERGENCY, WAR	578	570
disaster	109	104
emergency	83	75
danger	40	39
trouble	31	20
loss,es	10	24
no home	-	10
homeless	-	31
crisis	-	12
problem,s	21	43
fire	25	5
flood,s	54	70
famine	12	-
tornado	18	6
hurricane	15	-
war	81	87
nuclear	22	13
nuclear war	15	-
bomb,s,ing	19	17
death	23	14

BLAST SHELTER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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WAR, NUCLEAR, FALL-OUT	492	329
war	167	158
air-raid	9	12
military	24	13
army	-	17
nuclear war	18	-
nuclear bomb	25	21
nuclear	30	-
fall-out	77	34
radiation	104	50
	58	23

BOMBS, EXPLOSION	301	264
bomb, s, ing	178	147
bomb scare	-	11
dynamite	-	14
explosion	96	40
debris	12	-
guns	15	7
noise, y	-	24
loud	-	21

UNDERGROUND, BASEMENT	343	464
underground	163	165
basement, s	36	83
cellar	21	9
bomb shelter	26	33
fall-out shelter	-	21
shelter	10	11
deep	19	9
building	7	12
cave	-	52
subway	8	20
ground	-	19
hole	9	22
hole in wall	11	-
location	10	-
cover	23	8

Main Components	Percentage of Total Score	Males	Females
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WAR, NUCLEAR, FALL-OUT	20	13
BOMBS, EXPLOSION	12	11
UNDERGROUND, BASEMENT	14	19
PROTECTION, SAFETY	24	28
CONCRETE, STEEL	8	4
DARK, CROWDED, USELESS	10	12
FOOD, WATER	4	6
DESTRUCTION, DEATH	7	7
MISCELLANEOUS	1	1

Total Scores 2472 2463

PROTECTION, SAFETY	602	679
protection	178	147
protect, ed	13	25
safe, ty	182	210
secure, ity	44	17
survive, al	11	26
hide, ing	38	41
run, ning	-	21
help	40	32
people	26	43
civil defense	33	15
family	17	24
children	-	15
necessary	-	33
first aid	10	-
need, ed	10	20
sirens	-	10

CONCRETE, STEEL	192	95
concrete	107	30
cement	22	43
steel	18	14
hardened	11	-
big	10	-
thick	10	-
strong	14	8

Main Components and Responses	M	F
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DARK, CROWDED, USELESS	241	293
dark	37	56
cold	9	16
crowded	19	26
inadequate	13	-
useless	52	49
no good	-	11
stupid	10	10
trouble	10	-
waste, ful	36	-
unnecessary	-	18
expensive	14	-
impossible	-	10
no such thing	10	-
where?	7	28
why?	23	-
scared, y	-	27
fear	10	20
don't know	-	12
don't want	-	10

FOOD, WATER	102	140
food	65	66
water	37	38
canned goods	-	12
clothes, ing	-	13
light	-	11

DESTRUCTION, DEATH	167	167
destruction	22	20
disaster	3	26
emergency	7	10
fire	26	33
danger	12	23
death	83	55
dead	14	-

MISCELLANEOUS	32	32
silo	-	11
temporary	13	5
U.S.S.R.	19	6
government	-	10

FALLOUT SHELTER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	M	F
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SAFETY, PROTECTION, LIFE	683	713
safety	188	244
protect, ion	127	147
hide, ing	34	59
security	21	8
defense	21	-
civil defense	19	15
sign, s	12	20
siren	6	15
survive, al	68	13
prepare, d	-	18
good	-	11
necessary	10	39
need, ed	38	24
help	21	13
life, live	21	5
people	44	37
family	53	45

WAR, BOMBING, DEATH	603	607
war	215	234
air-raid	16	-
bomb, s, ing	172	191
blast	10	-
explosion	11	-
death	74	80
destruction	28	28
disaster	21	20
emergency	22	18
danger	34	21
tornado	-	15

NUCLEAR, RADIATION	389	239
nuclear	155	77
nuclear war	60	46
nuclear attack	8	23
radiation, oactive	166	93

Main Components	Percentage of Total Score	Males	Females
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SAFETY, PROTECTION, LIFE	22	23
WAR, BOMBING, DEATH	19	20
NUCLEAR, RADIATION	13	8
BASEMENT, UNDERGROUND	21	19
FOOD, WATER, SUPPLIES	12	12
DARK, CROWDED, USELESS	10	11
FEAR, PANIC	2	3
THE 50'S	0	3
MISCELLANEOUS	1	1

Total Scores	3100	3086
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BASEMENT, UNDERGROUND	636	590
basement, s	122	147
underground	166	177
deep	17	-
bomb shelter	-	17
shelter	17	14
yellow sign	13	16
home	17	23
house	10	11
backyard	8	16
cave	11	32
hole	42	14
box	12	-
place	-	11
building, s	17	-
school, s	55	46
temporary	13	7
concrete	58	20
cement	23	39
lead	24	-
thick wall	11	-

Main Components and Responses	M	F
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FOOD, WATER, SUPPLIES	357	384
food	182	176
canned goods/food	-	24
cans	-	10
water	88	103
air	24	6
supplies	11	22
provisions	14	-
light	-	14
radio	10	9
blanket, s	9	10
clothing	19	7

DARK, CROWDED, USELESS	311	349
dark, ness	51	94
cold	25	44
small	39	13
crowd, ed, ing	53	73
cramped	14	-
damp	-	18
dirt	21	-
useless	57	50
no	12	7
impossible	-	10
impractical	-	11
outdated	-	11
waste	15	-
unnecessary	-	18
why?	24	-

FEAR, PANIC	71	106
fear	21	30
scared, y	18	40
where?	7	15
panic	25	21

THE 50'S	9	81
the 50's	9	67
the 60's	-	14

MISCELLANEOUS	41	17
U.S.S.R.	17	17
brassiere	13	-
jock strap	11	-

RISK

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
CHANCE, TAKE, GAMBLE	594	565
chance,s	216	196
decision	8	18
gamble,ing	59	78
try	39	36
take,ing	37	32
taker	-	12
test	-	11
go for it	12	-
game	97	81
bet	-	26
dare,ing	52	44
brave	18	-
courage,ous	22	16
attempt	15	9
choice	19	6

DANGER, HAZARD, JOB, WAR	285	505
danger,ous	136	265
hazard	12	14
threat	-	13
unsafe	-	34
trouble	10	-
emergency	-	10
problem,s	4	15
area	-	15
warning	-	14
job,s	18	13
flying	9	11
war	65	50
nuclear war	-	12
nuclear	-	15
driving	19	10
sex	12	14

ADVENTURE, FUN, EXCITING	205	121
adventure,s	47	25
fun	61	32
exciting,ment	54	42
challenge,ing	43	22

Main Components	+	-
CHANCE, TAKE, GAMBLE	35	31
DANGER, HAZARD, JOB, WAR	17	28
ADVENTURE, FUN, EXCITING	12	7
FEAR, UNCERTAINTY	6	6
NECESSARY, SAFE, GOOD	5	3
MONEY, REWARD	9	4
LIFE, DEATH, HEALTH	9	12
FACTORS, CALCULATED	6	8
MISCELLANEOUS	1	2

Total Scores 1681 1817

FEAR, UNCERTAINTY	102	106
fear,ful	15	25
scary,ed	35	21
unknown	4	10
uncertain,ty	8	17
unsure	19	14
bad	7	13
loss	14	6

NECESSARY, SAFE, GOOD	90	57
necessary	27	-
caution	-	18
safe,ty	5	17
good	34	14
careful	11	8
help,ful	13	-

Main Components and Responses	+	-
MONEY, REWARD	148	75
money	42	26
reward	21	-
benefit	10	-
economic	12	-
profit	11	-
stock market	16	11
invest,ment	11	13
worth	-	10
venture	11	-
business	14	15

LIFE, DEATH, HEALTH	145	213
life	82	94
live,ing	15	-
part of life	-	10
death	11	16
health	16	19
people	13	20
insurance	12	42
injury	-	12
cancer	10	-

FACTORS, CALCULATED	100	140
factor	-	27
high	39	34
possible,ity	-	21
odds	11	11
sometimes	11	-
probability	-	10
chancy	5	19
calculated	23	18
outcome	11	-

MISCELLANEOUS	12	35
pregnancy	-	12
love	12	12
grades	-	11

F.E.M.A.

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
GOVERNMENT, BUREAUCRACY	307	362
government	100	162
federal	21	-
agency	16	25
bureaucracy, tic	72	93
Washington, D.C.	-	25
business	-	16
committee	13	-
organization	21	-
official	11	-
politics, cal	19	10
state	11	-
president	12	-
red tape	-	16
U.S.	11	15

DISASTER, EMERGENCIES	121	59
disaster	52	39
emergency	30	-
fire	10	-
death	-	20
flood.s	29	-

HELP, PROTECT, NECESSARY	430	183
help, ful, ing	151	86
aid	31	13
protection	26	-
Red Cross	19	11
hospital.s	18	10
shelter	14	-
alert	10	-
communicate	-	11
safety	33	-
security	17	-
control	20	-
caring	-	11
good	32	-
necessary	23	16
needed	18	-
important	18	25

Main Components	+	-
GOVERNMENT, BUREAUCRACY	22	33
DISASTER, EMERGENCIES	9	5
HELP, PROTECT, NECESSARY	31	17
CIVIL DEFENSE, MILITARY	4	5
MONEY, BUDGET	8	5
WAR, ATTACK	2	6
PLAN, ORGANIZE	9	5
UNKNOWN, NEVER HEARD OF	7	9
USELESS, WASTEFUL	1	8
MISCELLANEOUS	6	7

Total Scores 1393 1098

CIVIL DEFENSE, MILITARY	61	56
civil defense	23	20
National Guard	18	10
defense	8	26
police	12	-

MONEY, BUDGET	107	53
money	59	31
budget	12	11
taxes	12	-
costly	-	11
welfare	13	-
funds	11	-

Main Components and Responses	+	-
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WAR, ATTACK	34	70
war	28	30
nuclear	6	20
attack	-	10
destruction	-	10

PLAN, ORGANIZE	131	58
plan, s, n, ing	59	43
prepare, d, ness	28	-
work	13	-
training	12	-
organize, d	7	15
information	12	-

UNKNOWN, NEVER HEARD OF	93	95
don't know	12	26
unknown	43	44
never heard of	16	25
who?	12	-
what?	10	-

USELESS, WASTEFUL	20	88
useless	14	48
waste, ful	6	40

MISCELLANEOUS	89	74
research	11	-
\$10	31	-
thanks	10	-
farmers	10	-
fear	-	26
new	13	-
people	14	48

E.M.O.

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
GOVERNMENT, BUREAUCRAT	139	152
government	54	77
bureaucrat, ic	31	27
U.S.	-	17
community	12	-
local	10	-
organization	12	-
business	-	31
F.E.M.A.	20	-

HELP, SAFETY, NECESSARY	274	191
help, full	92	92
helper	15	21
protection	16	33
assistance	10	-
security	16	-
aid	10	13
safety	20	-
needed	21	15
important	33	-
good	12	17
necessary	29	-

BOSS, LEADER, PERSON	446	403
boss	24	33
head	16	23
chief	17	-
leader	51	63
captain	-	15
official	54	23
president	11	23
title	11	-
uniform	15	-
manager	20	-
fireman	13	17
fire chief	20	-
police	81	92
doctor	16	-
people	14	-
person	32	29
male	15	-
man	18	33
employee	-	17
work	-	25
job	18	-
volunteer	-	10

Main Components	+	-
GOVERNMENT, BUREAUCRAT	9	11
HELP, SAFETY, NECESSARY	17	14
BOSS, LEADER, PERSON	28	29
CONTROL, PLAN, RESPONSIBLE	20	10
CALM, INTELLIGENT, STRONG	6	7
DISASTER, CRISIS, WAR	6	4
WHO?, UNKNOWN, USELESS	4	16
CIVIL DEFENSE, RED CROSS	7	5
MISCELLANEOUS	3	5
Total Scores	1619	1382

Main Components and Responses	+	-
CALM, INTELLIGENT, STRONG	103	90
calm	36	27
intelligent	-	13
knowledge, able	34	42
smart	12	8
power	11	-
strong	10	-
DISASTER, CRISIS, WAR	93	50
disaster	37	-
crisis	21	-
fire	-	13
flood	9	12
war	26	25
WHO?, UNKNOWN, USELESS	71	225
who?	20	52
why?	9	13
what?	17	31
where?	11	10
unknown	-	21
don't know	-	23
costly	-	17
waste	-	35
useless	14	23

CIVIL DEFENSE, RED CROSS	117	69
civil defense	38	-
military	20	21
Red Cross	18	-
army	25	31
defense	10	-
hospital	6	17
MISCELLANEOUS	50	66
warning	15	-
money	7	42
equipment	10	-
office	4	12
desk	14	12

CONTROL, PLAN, RESPONSIBLE	326	136
control	28	25
in charge	37	36
decisions	13	-
planning	28	-
direct, s, ion	28	-
plans	11	-
planner	11	-
authority	26	33
preparation	-	15
study	-	12
training, ed	31	-
order, s	27	15
organize, d	23	-
responsible, t, y	63	-

NUCLEAR DETERRENCE

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
US, USSR, GOVERNMENT	187	147
U.S.	17	26
Reagan	50	34
U.S.S.R.	37	34
Russia	6	11
Europe	12	9
nations	10	-
government	33	-
politics	-	19
people	22	14

WEAPONS, BOMBS, MISSILES	113	144
weapons	23	14
bombs	16	52
defense	52	-
missiles	10	62
arms	12	-
warheads	-	16

TALKS, TREATY	162	29
talks	65	9
treaty, ies	25	-
trust	24	-
agreement, s	7	11
negotiation	14	-
peace talk	17	9
alternative	10	-

PEACE, GOOD, NEEDED	280	80
peace	70	56
hope, ful	23	-
good	60	12
important	10	-
necessary	25	-
needed	31	-
help	11	-
safety	14	-
detente	15	-
must	13	-
work	8	12

Main Components	+	-
US, USSR, GOVERNMENT	19	19
WEAPONS, BOMBS, MISSILES	12	19
TALKS, TREATY	17	4
PEACE, GOOD, NEEDED	29	11
STOP, CONTROL	6	0
WAR, DESTRUCTION	9	22
STAR WARS, SPACE	7	7
DIFFICULT, IMPOSSIBLE	2	18

Total Scores 965 756

Main Components and Responses	+	-
WAR, DESTRUCTION	88	166
war	44	81
destruction	-	20
dangerous	-	11
Mutually Assured Destruct.	15	-
radiation	-	20
threat	10	-
will	-	17
death	19	17

STAR WARS, SPACE	63	51
space	12	9
Star Wars	51	42

WAR, DESTRUCTION	88	166
war	44	81
destruction	-	20
dangerous	-	11
Mutually Assured Destruct.	15	-
radiation	-	20
threat	10	-
will	-	17
death	19	17

STAR WARS, SPACE	63	51
space	12	9
Star Wars	51	42

DIFFICULT, IMPOSSIBLE	18	139
difficult	-	17
not possible	-	19
impossible	11	-
waste	-	19
nothing	-	16
scary	-	17
money	7	51

STOP, CONTROL	54	0
stop	22	-
eliminate	10	-
control	11	-
strength	11	-

NUCLEAR WAR SURVIVAL

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
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IMPOSSIBLE, NO, UNLIKELY

impossible	579	916
none	69	114
no	13	34
never	18	12
useless	-	15
hopeless	37	28
not possible	-	34
no chance	11	24
no way	-	21
difficult	15	8
slim chance	51	22
not likely	18	9
unlikely	39	77
improbable	20	-
avoid	10	6
minimal	18	9
limited	-	19
few	39	51
risky	-	10
low	-	12
doubtful	21	32
hard	29	8
wishful thinking	16	-
nonsense	-	12
ridiculous	-	10
stupid	-	15
insane	-	10
joke	-	13
can't	-	11
how?	21	20
why?	23	34
not many	15	12
not worth	15	15
foolish	-	14
rare	-	16

Main Components and Responses	+	-
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BOMB, DESTRUCTION, WAR	170	173
bombs	28	7
attack	10	-
destruction	26	67
devastation	11	13
waste, fuel	-	21
ground zero	-	13
dangerous	20	14
war	33	15
defense	26	8
Hiroshima	16	15

Main Components

IMPOSSIBLE, NO, UNLIKELY	24	36
DEATH, SICKNESS, BURNS	11	18
PAIN, SUFFERING, FEAR	4	8
SHELTER, PROTECTION	16	9
FOOD, WATER, PREPARED	11	4
BOMB, DESTRUCTION, WAR	7	7
RADIATION, FALL-OUT	5	5
PEOPLE	4	2
BARREN, ALONE, EMPTY	4	6
YES, POSSIBLE, STRONG	11	4
MISCELLANEOUS	3	1

RADIATION, FALL-OUT	114	132
radiation	67	83
poison	10	-
contamination	-	18
fall-out	24	22
winter	13	9

PEOPLE	100	56
people	42	26
Russian	20	11
children	-	19
animals	20	-
what?	18	-

BARREN, ALONE, EMPTY	83	156
world	10	-
barren	-	26
lonely	24	35
alone	24	18
empty	-	13
dark	10	6
no one	-	14
lost	15	11
dismal	-	11
nothing	-	12
no food	-	10

Total Scores

2371	2545
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SHELTER, PROTECTION

shelter, s	309	241	85	212
underground	178	111	-	83
cave, s	39	23	16	22
fall-out shelter	33	6	25	-
basement	-	17	11	10
bomb shelter	-	18	13	12
protection	34	5	-	16
safety	20	-	20	26
help	13	8	-	18
relocation	15	7	-	12
rebuild	-	11	-	-
reconstruction	10	-	-	-
civil defense	10	15	-	-
save	11	-	-	-
calm	10	8	-	-
start over	10	-	-	-

PAIN, SUFFERING, FEAR

pain, fear	263	91	104	33
suffering	15	-	-	-
sad, ness	49	22	-	-
depressing, ion	11	-	-	-
bad	32	-	-	-
terrible	15	14	-	-
undestable	11	-	-	-
fear	15	-	-	-
scary, ed	11	-	-	-
horrible	11	-	-	-

FOOD, WATER, PREPARED

food	263	91	104	33
air	15	-	-	-
water	49	22	-	-
heat	11	-	-	-
prepared, ness	32	-	-	-
plans	15	14	-	-
training	11	-	-	-
education	18	-	-	-
knowledge	15	-	-	-
aid	15	-	-	-

MISCELLANEOUS

trust	72	20	-	-
U.S.S.R.	15	6	-	-
U.S.	10	-	-	-
peace	-	14	-	-
future	10	-	-	-
different	24	-	-	-

YES, POSSIBLE, STRONG

yes	260	90
maybe	26	-
chance	23	4
possible, ity	24	14
strong	23	32
power	10	-
tough	10	-
hope, ful	49	12
necessary	20	-
lucky	41	-
Australia	-	10
life	-	18
live	11	-
will	10	-

S.D.I.

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
MILITARY, ARMY, WEAPONS	332	289
military	26	44
defense	16	-
Army	38	21
Navy	37	12
Airforce	31	-
Pentagon	14	16
weapons	20	16
missiles	45	40
MI	-	12
bomb.s	28	50
arms	11	18
guns	6	21
plane.s	30	8
sub.marine	-	24
tank.s	10	7
soldier.s	20	-

REAGAN, GOVT., RUSSIA	101	204
Reagan	39	62
politics	-	10
president	14	9
government	21	23
U.S.	16	34
Russia	11	52
arms control	-	14

PROTECT, PLAN, SAFETY	119	124
protect,ion	44	21
prepared	-	12
plan,ed,ning	16	38
plans	-	21
system	-	16
safety	22	16
strength	27	-
power	10	-

Main Components	+	-
MILITARY, ARMY, WEAPONS	34	28
REAGAN, GOVT., RUSSIA	10	20
PROTECT, PLAN, SAFETY	12	12
GOOD, NECESSARY	21	5
NUCLEAR, SCIENCE, SPACE	5	7
MONEY, EXPENSIVE	3	8
WAR, DEATH	7	12
STAR WARS	5	6
MISCELLANEOUS	3	2

Total Scores 987 1025

GOOD, NECESSARY	205	52
good	35	-
necessary	36	-
help	9	10
need,ed	41	-
great	10	-
Initiative	-	12
important	37	13
hope it works	12	-
peace	25	17

Main Components and Responses	+	-
NUCLEAR, SCIENCE, SPACE	52	70
nuclear	-	38
computers	-	12
radar	18	-
science	11	-
space	5	20
air	18	-

MONEY, EXPENSIVE	34	85
money	19	22
expensive	5	26
waste	-	16
cost	10	-
stupid	-	21

WAR, DEATH	69	120
war	59	90
nuclear war	10	-
war games	-	12
death	-	18

STAR WARS	48	61
Star Wars	48	61

MISCELLANEOUS	27	20
Chess	-	10
people	15	-
game.s	12	10

STAR WARS PROGRAM

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
MILITARY, WAR, DEATH	85	173
military	-	14
missiles	16	28
bombs	-	19
rockets	-	13
weapons	13	-
war	37	42
nuclear war	12	15
destruction	7	13
death, dly	-	29

REAGAN, U.S., RUSSIA	275	297
Reagan	171	174
U.S.	13	25
U.S.S.R.	10	15
Russia, n	37	42
Third World	12	-
congress	-	15
policy	12	-
government	-	15
politics	-	11
conference	10	-
control	10	-

DEFENSE, PROTECTION	195	104
defense	128	51
S&I	-	12
power	-	10
protection	24	20
deterrent	19	-
peace	9	11
safety	15	-

GOOD, NECESSARY	243	0
good	116	-
good idea	12	-
great	16	-
necessary	21	-
yes	24	-
possible	34	-
hopeful	10	-
helpful	10	-

Main Components	+	-
MILITARY, WAR, DEATH	6	13
REAGAN, U.S., RUSSIA	20	23
DEFENSE, PROTECTION	14	8
GOOD, NECESSARY	17	0
LASERS, TECHNOLOGY, NUCLEAR	9	7
SPACE, SATELLITES, FUTURE	22	9
BAD, USELESS, STUPID	1	19
MONEY, WASTEFUL	5	15
ENTERTAINMENT, T.V.	6	7
Total Scores	1401	1310

Main Components and Responses	+	-
LASERS, TECHNOLOGY, NUCLEAR	121	86
lasers	60	18
science	16	10
technology	10	7
high tech	18	6
research	7	16
nuclear	10	29
SPACE, SATELLITES, FUTURE	307	116
space	98	78
outer space	13	6
stars	16	6
satellites	77	8
space shuttle	28	-
future	53	10
new	22	8
BAD, USELESS, STUPID	15	244
bad	15	30
unnecessary	-	43
scary	-	14
dangerous	-	21
foolish	-	18
crazy	-	16
stupid	-	42
dumb	-	18
yuk	-	10
dump	-	10
unneeded	-	12
idiotic	-	10
MONEY, WASTEFUL	71	193
money	32	34
waste, ful	-	60
expense	-	15
expensive	29	47
cost	10	-
costly	-	23
taxes	-	14

ENTERTAINMENT, T.V.	89	97
entertainment	15	-
Batman	-	12
movie, s	19	43
Darth Vader	15	-
Luke	15	21
T.V.	7	21
people	18	-

LASER BEAM MISSILE DEFENSE

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
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TECHNOLOGY, SCIENCE	324	222
technology	76	84
satellite.s	63	11
high tech	24	23
scientific	63	42
development	14	-
advanced	16	-
advancement	-	11
knowledge	-	23
research	17	-
physics	6	14
modern	15	-
new	30	14

FUTURE, SPACE, STAR WARS	390	264
future	102	23
futuristic	22	17
outer space	10	-
space	56	43
space shuttle	15	13
Star Wars	169	157
Star Trek	6	11
James Bond	10	-

DEFENSE, PROTECT, WEAPONS	218	159
defense	42	43
Pentagon	-	10
military	16	15
protect, ion	50	11
safety	25	6
weapon.s	30	13
missile.s	19	7
arms race/buildup	6	15
bomb.s	11	9
gun.s	19	30

WAR, DESTRUCTION, DEATH	144	403
war	54	100
destroy	12	22
destruction, tive	21	54
death	8	66
deadly	7	22
ruin	-	10
radiation	14	13
dangerous	28	79
kill, ing	-	24
escalation	-	13

Main Components	Percentage of Total Score	+	-
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TECHNOLOGY, SCIENCE	17	12
FUTURE, SPACE, STAR WARS	21	15
DEFENSE, PROTECT, WEAPONS	11	9
WAR, DESTRUCTION, DEATH	8	22
LIGHT, BEAM	12	11
GOOD, HELPFUL	12	1
MONEY, EXPENSIVE	3	5
POWERFUL, ACCURATE	6	5
WORTHLESS, STUPID	0	11
US, USSR, GOVERNMENT	6	8
MEDICAL	4	1

Total Scores 1899 1819

LIGHT, BEAM	223	200
light	91	72
beam.s	114	70
bright	-	25
red	18	16
blue	-	17

GOOD, HELPFUL	231	27
good	57	8
great	32	-
necessary	35	-
needed	11	-
effective	15	9
important	11	10
help, fu	25	-
interesting	15	-
possible, ity	30	-

Main Components and Responses	+	-
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MONEY, EXPENSIVE	66	87
money	26	17
expensive	33	35
costly	7	35

POWERFUL, ACCURATE	118	87
power, ful	28	35
accurate	31	13
precise	13	-
quick	8	13
cut	8	26
hot	17	-
heat	13	-

WORTHLESS, STUPID	0	200
worthless	-	13
impractical	-	14
waste	-	27
untested	-	16
crazy	-	14
controversial	-	15
ridiculous	-	13
dumb	-	13
stupid	-	21
bad	-	16
why?	-	10
unnecessary	-	17
frightening	-	11

US, USSR, GOVERNMENT	109	146
U.S.	8	28
Russia, U.S.S.R.	22	42
Reagan	59	51
government	20	27

MEDICAL	76	24
medical, cine	19	6
surgery	22	18
eyes, surgery	24	-
operations	11	-

HIGH TECH NUCLEAR DEFENSE

Perceptions and Evaluations by People with Positive and Negative Attitudes

Main Components and Responses	+	-
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COMPUTERS, SCIENCE, COMPLEX	558	354
computer, s	171	124
satellite, s	38	30
radar, s	41	13
radio	12	-
science, tific	72	29
scientist, s	19	29
engineer	-	10
Intelligent	12	-
brains	11	-
nuclear	12	-
electronic	19	16
chips	12	-
machines	13	8
buttons	12	-
research	15	28
advanced	33	-
sophisticated	16	14
modern	-	10
development	-	10
progress	12	-
complex	22	-
complicate	16	33

STAR WARS, FUTURE, SPACE	164	174
Star Wars	65	94
future	51	13
futuristic	-	12
space	34	47
space shuttle	14	8

PROTECTION, DEFENSE, SAFETY	203	70
protection	58	22
defense	39	20
SDI	11	-
safer	16	-
safety	46	12
security	19	-
secret	-	16
prepared	14	-

WAR, DEATH	110	245
war	88	170
death	6	31
killing	-	12
radiation	7	25
dangerous	-	35
threat, ening	-	19
destruction	9	13

Main Components	+	-
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COMPUTERS, SCIENCE, COMPLEX	27	19
STAR WARS, FUTURE, SPACE	8	9
PROTECTION, DEFENSE, SAFETY	10	4
MISSILES, BOMBS, MILITARY	9	18
WAR, DEATH	5	13
LASER, BEAMS	8	4
GOOD, NECESSARY, HOPE	18	4
MONEY, EXPENSIVE, WASTEFUL	7	12
USELESS, STUPID	2	10
US, USSR, GOVERNMENT	7	8

Total Scores 2036 1878

MISSILES, BOMBS, MILITARY	183	330
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missiles	52	83
MX Missile	11	16
anti-missile	10	8
silos	6	12
weapons	10	18
bomb, s	16	74
boom	-	12
atomic bomb	-	10
warheads	16	-
rockets	15	-
submarines	10	-
planes	15	20
military	14	43
Airforce	-	10
Pentagon	8	24

LASER, BEAMS	153	69
laser beam	6	14
laser, s	131	55
particle beam	16	-

Main Components and Responses	+	-
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GOOD, NECESSARY, HOPE	359	68
good	59	39
good idea	15	-
necessary	76	-
need, ed	45	16
help	21	-
important	17	-
effective	-	13
now	10	-
a must	12	-
hope, ful	37	-
peace	12	-
clean	10	-
better	11	-
possible	23	-
medicine	11	-

MONEY, EXPENSIVE, WASTEFUL	134	218
money	47	46
business	13	-
budget	12	12
expensive	31	84
costly	14	31
waste, ful	17	45

USELESS, STUPID	39	192
useless	-	28
unnecessary	-	30
bullshit	-	13
difficult	-	20
foolish	-	20
confusing	10	-
impossible	9	10
impractical	-	13
none	-	12
stupid	-	14
destabilizing	-	12
scary	10	20
hard	10	-

US, USSR, GOVERNMENT	133	158
U.S.	32	38
U.S.S.R., Russia	18	20
Reagan	44	62
government	-	26
Japan	25	-
people	14	12

EMERGENCY

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	M
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HELP, RESCUE, SHELTER	425	562
help	192	318
aid	40	69
evacuate, ion	31	-
rescue	23	-
exit	27	7
safety	26	15
shelter	28	28
need, help	17	33
care	4	21
plan	12	25
prepare	6	19
response	19	-
food	-	27

DANGER, THREAT	221	140
dangerous	141	57
threat	19	7
trouble	32	67
problem	29	9

AMBULANCE, DOCTOR, HOSPITAL	809	863
ambulance	240	205
hospital, s	139	201
doctor, s	54	113
nurse, s	20	53
paramedics	10	12
police, man	129	136
rescue squad	9	-
fire department	18	-
first-aid	22	14
Red Cross	30	8
room	32	33
blood	29	11
medical	31	22
medicline	6	15
services	-	12
vehicle	23	17
C.P.R.	17	11

WARNING, SIRENS, LIGHTS	297	210
siren, s	80	37
warning	35	14
alarm	32	6
red	34	66
red light, s	15	-
flashing light	9	14
light, s, ing	10	20
T.V.	23	47
broadcast	12	6
information	20	-
communication	15	-
Emergency Broadcast System	12	-

Main Components and Responses	E	M
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DISASTER: FLOOD, FIRE, WAR	698	666
disaster	149	74
crisis	82	51
weather	-	32
natural	-	11
tornado	20	60
fire	192	161
flood	76	66
hurricane	19	30
storm	-	19
water	11	-
earthquake	30	12
national	12	19
bomb	-	18
war	71	78
nuclear	12	29
destruction	15	6
explosion	9	-

ACCIDENT, HURT, DEATH	271	314
accident, s	100	113
injury	16	16
heart, attack	30	10
hurt	19	63
pain	17	16
death	67	45
sick, ness	-	21
illness	14	15
health	8	15

QUICK, HURRY, URGENT	432	264
quick, ly	82	50
hurry	39	61
rush	38	4
now	23	31
immediate	34	21
urgent, cy	23	22
priority	14	-
fast	43	26
speed	13	-
run	32	15
action	29	19
quick action, thinking	16	-
important	20	15
sudden	13	-
surprise	13	-

Main Components	Percentage of Total Score	East	West
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HELP, RESCUE, SHELTER	12	17
DANGER, THREAT	6	4
AMBULANCE, DOCTOR, HOSPITAL	22	27
PANIC, FEAR	7	2
WARNING, SIRENS, LIGHTS	8	6
911, TELEPHONE	4	3
DISASTER: FLOOD, FIRE, WAR	19	20
ACCIDENT, HURT, DEATH	7	10
QUICK, HURRY, URGENT	12	8
MISCELLANEOUS	3	2

Total Scores	3643	3252
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PANIC, FEAR	252	76
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panic	117	38
fear	59	17
chaos	18	-
confusion	12	-
scary	14	9
scream	17	-
adrenaline	11	4
sad, ness	4	8

911, TELEPHONE	139	101
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911	47	29
number, phone	9	5
phone	27	28
telephone	43	12
call, s	13	27

MISCELLANEOUS	99	56
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child, ren	16	4
family	20	5
people	9	14
bad	13	-
T.V. show	14	-
watch	12	-
car	10	23
calm	5	10

EMERGENCY PREPAREDNESS

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	M
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READY, ALERT, AWARENESS	289	201
ready	128	100
readiness	33	23
alert	24	13
prepared	10	13
preparation	-	16
precaution	13	6
awareness	40	-
prevention	13	-
time	-	10
hurry	9	20
quick	19	-

GOOD, NECESSARY, HELP	242	276
good	52	31
necessary	68	52
needed	27	47
helpful	42	66
important	13	18
aid	-	32
smart	12	21
don't panic	10	-
calm	18	9

PLANNING, TRAINING	357	165
plan, need, n'g	108	51
plans	26	10
knowledge, able	16	46
organized, ation	28	-
trained, ing	74	18
educate, ed, ation	18	13
learn	4	9
books	-	9
instruction	9	-
practice	27	9
get ready	12	-
management	10	-
Boy Scout, s	15	-
merit badge	10	-

DISASTER, WAR, BOMBS	249	119
disaster	48	9
war	60	69
attack	15	-
nuclear	9	-
emergency	15	-
fire	28	-
flood	21	6
storm	12	-
bomb, s	16	6
accident	-	15
crisis	9	-
death	16	14

Main Components and Responses	E	M
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GOVERNMENT, MILITARY,	287	144
government	28	22
U.S.	19	-
country	-	9
civil defense	63	16
police	19	20
military	33	8
defense	36	50
National Guard	26	-
Army	16	8
planes	6	11
missiles	11	-
weapons	20	-
guns	10	-

HOSPITALS, FIRST-AID	167	262
hospital, s	23	52
Red Cross	20	54
ambulance	23	40
doctor, s	14	14
medical	6	20
medicine	10	11
first-aid	17	71
C.P.R.	26	-
bandages	28	-

WARNINGS, MEDIA	56	79
warning, s	24	15
lights	-	18
information	13	-
radio	5	40
T.V.	14	6

COSTLY, USELESS	63	50
costly	11	-
not good	-	10
not ready	10	12
wasteful	10	-
useless	8	16
impossible	13	-
no time	11	-
none	-	12

Main Components	Percentage of Total Score	East	West
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READY, ALERT, AWARENESS	13	10
GOOD, NECESSARY, HELP	11	13
PLANNING, TRAINING	16	8
SHELTER, FOOD, SAFETY	23	36
DISASTER, WAR, BOMBS	11	6
GOVERNMENT, MILITARY,	12	7
HOSPITALS, FIRST-AID	7	13
WARNINGS, MEDIA	2	4
COSTLY, USELESS	3	2
MISCELLANEOUS	2	1

Total Scores 2299 2065

SHELTER, FOOD, SAFETY	540	749
shelter, s	155	152
basement	-	9
fall-out shelter	11	-
food	130	228
supply, ies	18	51
extra food	-	11
water	61	95
flashlight	-	20
blankets	7	19
safe, ty	40	74
clothes, ing	23	-
evacuation	26	14
run	-	16
family	31	18
people	38	33
self	-	9

MISCELLANEOUS	49	20
Reagan	16	-
survival	10	-
are we?	12	-
peace	-	10
understand	-	10
community	11	-

F.E.M.A.

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	M
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GOVERNMENT, BUREAUCRACY	490	419
government	196	184
federal	26	-
national	-	12
agency, government/federal	46	-
bureaucratic	146	80
Washington, D.C.	-	20
business	-	11
committee	13	-
organization	25	25
group	-	16
political	19	-
President	6	16
red tape	7	42
U.S.	14	13

DISASTERS, EMERGENCIES	187	64
disasters	89	21
crisis	14	14
death	12	-
emergencies	46	19
floods	26	10

HELP, PROTECT, NECESSARY	364	382
help	87	141
helpful	23	64
aid	24	33
protection	31	12
shelter	11	-
Red Cross	21	6
hospital,s	20	-
safety	24	18
security	13	-
control	18	16
precaution	11	-
food	-	9
good	-	28
good idea	13	-
necessary	44	11
needed	-	29
important	24	15

CIVIL DEFENSE, MILITARY	100	36
civil defense	63	-
National Guard	19	-
defense	8	10
Pentagon	-	9
police	-	17
military	10	-

Main Components and Responses	E	M
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PLAN, ORGANIZE	167	61
planning	54	10
plans	29	-
preparation,edness	31	-
work	14	9
network	9	-
organize,d	7	18
manages,ment	17	10
information	6	14

UNKNOWN, NEVER HEARD OF	232	132
don't know	48	36
unknown	86	24
never heard of	37	-
none	12	-
who?	31	-
what?	31	-
why?	9	-
?	9	-

WASTE, INEFFECTIVE	92	40
useless	32	20
waste,ful	21	20
ineffective	13	-
impractical	14	-
boring	12	-

TEST, RESEARCH, \$10	195	0
word association	68	-
research	15	-
\$10	71	-
test	15	-
University of Pittsburgh	11	-
thanks	15	-

MISCELLANEOUS	49	64
people	23	28
farmers	-	19
fear	7	9
poor	-	10
new	19	-

Main Components	Percentage of Total Score
East	West

GOVERNMENT, BUREAUCRACY	24	31
DISASTERS, EMERGENCIES	9	5
HELP, PROTECT, NECESSARY	18	29
CIVIL DEFENSE, MILITARY	5	3
MONEY, BUDGET	4	7
WAR, BOMBS	5	3
PLAN, ORGANIZE	8	5
UNKNOWN, NEVER HEARD OF	11	10
WASTE, INEFFECTIVE	4	3
TEST, RESEARCH, \$10	9	0
MISCELLANEOUS	2	5

Total Scores	2055	1331
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MONEY, BUDGET	72	88
money	53	88
budget	19	-

WAR, BOMBS	99	45
war	49	37
nuclear war	14	-
nuclear attack	17	8
bomb	10	-
	9	-

EMERGENCY EVACUATION

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	M
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FLOOD, FIRE, RADIATION	383	594
flood,s	130	210
tornado	35	61
volcano	15	6
hurricane	30	25
earthquake	30	53
snow	-	11
storm	14	12
fire,s	64	165
gas, leak	14	14
nuclear	15	23
Three Mile Island	13	-
chemical,s	8	12
radiation	15	6

WAR, BOMBS	202	283
war	103	194
nuclear war	16	26
attack	20	-
explosion	6	15
bomb,s	44	48
bomb threat	13	-

SHELTER, SAFETY	242	206
shelter,s	88	71
home,s	31	12
school,s	18	-
place,s	11	-
hide	26	9
safe,ty	52	69
calm	-	19
food	6	16
good	-	10

QUICK, HURRY	254	249
quick,ly	86	47
fast	54	84
rush,ing	33	18
time	9	18
hurry	26	60
immediate	14	-
necessary	22	8
order,ly	-	14
possible	10	-

RUN, LEAVE, MOVE	352	213
run,ning	83	44
run away	11	-
flee	10	-
leave,ing	96	90
get out	25	54
move,ing	54	68
movement	-	11
escape	28	-
exit	18	-
	17	-

Main Components and Responses	E	M
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HELP, RED CROSS, POLICE	275	232
help,ful	65	89
rescue	12	-
plan,med,ning	40	34
prepare	9	7
Red Cross	33	40
National Guard	14	24
police	34	27
needed	12	-
civil defense	25	8
C.P.R.	24	-
hospital	7	10
organized,ation	-	13

PEOPLE, CROWDS	168	130
people	62	70
crowd,s,ed	34	8
children	14	6
family	20	24
elderly	-	9
government	12	13
country	13	-
life	13	-

WARNING, SIRENS	84	35
warning	32	7
radio	15	18
siren,s	23	10
fire drill	14	-

PANIC, CHAOS, FEAR	282	256
panic	58	100
confusion,ed,ing	53	45
hysteria	7	11
chaos,otic	32	-
fear	58	52
scary,ed	30	20
scream	12	-
mess	14	-
sad	4	11
pain	-	10
homeless	14	7

IMPOSSIBLE, WHERE?	146	125
impossible	56	-
where?	37	66
forget it	12	-
difficult	12	14
why?	14	5
how?	19	-
who?	9	-

Main Components	East	West
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FLOOD, FIRE, RADIATION	12	21
WAR, BOMBS	6	10
SHELTER, SAFETY	8	7
QUICK, HURRY	8	9
RUN, LEAVE, MOVE	11	7
CAR, TRAFFIC, PLANE	10	7
DANGER, DISASTER, DEATH	13	12
HELP, RED CROSS, POLICE	9	8
PEOPLE, CROWDS	5	5
WARNING, SIRENS	3	1
PANIC, CHAOS, FEAR	9	9
IMPOSSIBLE, WHERE?	5	4

Total Scores	3115	2846
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CAR, TRAFFIC, PLANE	325	189
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car,s	94	66
truck,s	49	25
bus,es	14	-
ambulance	24	9
traffic jam	25	-
highways	32	-
road block	-	11
roads	12	7
vehicle	19	7
helicopter	-	14
plane,s	13	28
boat,s	22	19
ship	21	-
	-	10

DANGER, DISASTER, DEATH	402	344
danger	110	84
dangerous	13	9
death	61	26
destruction	25	15
disaster,s	132	118
emergency	16	11
trouble	25	40
crisis	20	26
loss	-	15

EMERGENCY MANAGEMENT OFFICER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	M
GOVERNMENT, BUREAUCRAT	223	130
government	74	109
federal	13	-
local	16	9
organization	20	-
bureaucrat	69	-
business	-	12
F.E.M.A.	31	-

HELP, SAFETY, NECESSARY	346	346
help, cr, ful	108	158
aid	19	18
protection	10	26
safety	21	9
security	13	-
guide	8	12
shelter	12	9
information	-	24
trust	-	13
needed	34	34
important	36	26
good	27	-
necessary	41	6
precaution	11	-
preparation	8	11

BOSS, LEADER, PEOPLE	581	510
boss	41	23
head	28	14
chief	20	-
leader	75	84
warden	9	-
captain	14	-
official	67	60
officer	15	-
president	23	14
uniform	12	19
position	13	7
police	60	105
fireman, men	17	23
manager, ment	22	6
badge	-	12
director	9	-
doctor	8	12
people	20	24
person	30	44
man, male	30	35
employee	10	-
title	9	12
job	30	-
office	8	16
volunteer	11	-

Main Components and Responses	E	M
CALM, INTELLIGENT, STRONG	166	133
calm	41	32
cool	10	-
communicate	10	5
intelligent	12	-
quick, thinking	23	7
smart	-	19
knowledge, able	10	38
strong	10	-
tough	8	9
tough job	12	-
difficult	12	-
busy	-	10
worker	18	13

DISASTER, CRISIS, WAR	147	101
flood	-	13
disaster	50	18
emergency	16	-
trouble	10	12
crisis	31	6
war	28	44
problem	12	8

WHO?, UNKNOWN, USELESS	208	193
who?	68	45
where?	18	11
why?	15	-
what?	27	21
unknown	28	54
don't know	12	54
no reaction	12	-
useless	28	8

CIVIL DEFENSE, RED CROSS	105	104
civil defense	44	19
military	22	27
Red Cross	29	-
National Guard	10	-
Army	-	48
defense	-	10

MISCELLANEOUS	13	67
money	13	31
equipment	-	13
hospital	-	10
red	-	13

Main Components	East	West
GOVERNMENT, BUREAUCRAT	10	8
HELP, SAFETY, NECESSARY	16	20
BOSS, LEADER, PEOPLE	27	29
CONTROL, PLAN, RESPONSIBLE	17	8
CALM, INTELLIGENT, STRONG	8	8
DISASTER, CRISIS, WAR	7	6
WHO?, UNKNOWN, USELESS	10	11
CIVIL DEFENSE, RED CROSS	5	6
MISCELLANEOUS	1	4
Total Scores	2164	1730

CONTROL, PLAN, RESPONSIBLE	375	146
control	52	33
direct, s	15	12
in charge	57	12
plan, s, ning	41	6
planner	11	-
authority	48	10
decisions	16	-
order, s	24	11
organize, d	16	7
organizer	15	6
manage	10	-
responsible, ity	52	32
trained, ing	18	29

CIVIL DEFENSE

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	W
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MILITARY, NATIONAL GUARD	358	560
military	53	47
Air Force	-	15
Army	61	153
Navy	17	62
Marines	11	22
Coast Guard	-	22
National Guard	71	60
soldiers	15	-
reserves	10	-
people	55	53
worker,s	14	6
volunteer,s	21	35
police	18	41
warden	12	9
leader,s	-	22
men	-	13

WEAPONS, BOMBS	136	133
weapons	38	41
guns	28	21
bomb,s	47	51
missiles	11	11
tanks	12	9

WAR, EMERGENCY, DISASTER	457	365
war	180	186
attack	22	-
nuclear war	17	25
nuclear attack	10	-
nuclear	19	24
air-raid	48	16
defend,se	11	6
invasion	13	-
death	16	5
fight,ing	32	9
pilots	8	10
disaster	29	26
emergency, les	52	29
tornado	-	29

PLAN, PREPAREDNESS	243	134
plan,s,ning	61	25
prepare,ation	30	18
prepared,ness	70	22
drill,s	20	10
alert	9	13
organize,ation	26	8
system	15	31
training	12	7

Main Components and Responses	E	W
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GOVERNMENT, U.S.	204	123
government	86	57
nation	12	-
U.S.	19	16
U.S.S.R.	27	14
Reagan	29	36
community	10	-
F.E.N.A.	21	-

MONEY, BUDGET	46	82
money	32	38
budget	8	17
expensive	6	26

NEED, IMPORTANT	147	106
need,ed	58	24
rights	-	13
important	25	9
good	26	19
necessary	38	41

WARNING, SIREN	152	226
warning,s	19	51
broadcast	-	10
siren,s	85	131
radio	37	34
horn	11	-

USELESS, UNPREPARED	74	30
useless	29	-
inadequate	11	-
don't know	-	18
where?	10	-
unprepared	11	-
joke	-	12
waste	13	-

MISCELLANEOUS	45	32
peace	-	11
fear	11	-
jobs	-	11
15th	-	10
the 50's	22	-
possible	12	-

Main Components	Percentage of Total Score
East	West

MILITARY, NATIONAL GUARD	14	25
WEAPONS, BOMBS	5	6
WAR, EMERGENCY, DISASTER	18	16
SHELTER, PROTECTION, HELP	27	21
PLAN, PREPAREDNESS	10	6
GOVERNMENT, U.S.	8	5
MONEY, BUDGET	2	4
NEED, IMPORTANT	6	5
WARNING, SIREN	6	10
USELESS, UNPREPARED	3	1
MISCELLANEOUS	2	1

Total Scores 2540 2270

SHELTER, PROTECTION, HELP	678	479
shelter,s	141	80
bomb shelter	10	15
protect,ion	179	133
security	51	23
safe,ty	44	56
help,ful	95	85
aid	-	27
food	38	11
water	21	-
Red Cross	13	18
evacuate,ion	14	-
place	11	-
home	16	-
building,s	7	11
basement	-	9
patrol	-	11
helmet,s	27	-
hard hats	11	-

CRISIS RELOCATION

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	M
MOVE, EVACUATE	469	320
move,ing	232	225
movement	67	31
evacuate, ion	69	23
relocate	11	-
travel	16	-
leave	13	10
go	11	-
quick	12	-
hurry	9	-
speed	-	9
transportation	17	6
car	12	7
separation	-	9

SHELTER, RED CROSS, FOOD	443	273
shelter,s	103	53
fall-out shelter	11	-
school,s	31	14
church,es	15	31
house,s,ing	17	16
Red Cross	87	58
center	13	-
home	30	34
temporary	31	-
underground	15	10
food	24	35
money	30	12
clothing	-	10
place	13	-
slums	12	-
space	11	-

SAFETY, HELP, PROTECTION	315	236
safety	52	52
help,ful	51	97
assist,ance	10	-
protection	22	5
aid	11	-
plan,ed,ning	55	6
civil defense	12	-
National Guard	10	5
hospital	-	10
police	16	9
communication	11	-
warning	17	-
hotline	-	11
beneficial	10	-
important	9	13
need,ed	15	19
necessary	14	9

Main Components and Responses	E	M
CONFUSION, FEAR, WHERE?	195	193
confusion	25	17
chaos	17	6
panic	26	7
crowded	14	-
traffic jam	18	-
scared	12	-
fear	24	32
crying	4	9
sad	-	21
pain	-	23
don't know	-	42
where?	41	36
why?	14	-

IMPOSSIBLE, DIFFICULT	73	50
impossible	27	-
no way	11	-
no	-	11
bullshit	10	-
difficult	16	18
hard	-	11
unpleasant	-	10
question	9	-

FAMILY, PEOPLE	76	165
family	23	45
friends	-	15
people	34	70
volunteers	10	-
children	-	13
Japanese	-	11
refugees	9	11

GOVERNMENT, CITY	87	11
government	42	11
president	9	-
city,ies	36	-

MISCELLANEOUS	41	37
new	10	-
control	10	-
more	-	12
possible	12	-
work	9	7
Job,s	-	18

Main Components	East	West
MOVE, EVACUATE	21	18
SHELTER, RED CROSS, FOOD	19	16
SAFETY, HELP, PROTECTION	14	13
DISASTER, EMERGENCY, WAR	25	27
CONFUSION, FEAR, WHERE?	9	11
IMPOSSIBLE, DIFFICULT	3	3
FAMILY, PEOPLE	3	9
GOVERNMENT, CITY	4	1
MISCELLANEOUS	2	2
Total Scores	2273	1753

DISASTER, EMERGENCY, WAR	574	468
disaster	144	59
emergency	78	72
danger	49	18
trouble	21	27
loss,es, lost	42	23
no home	-	10
homeless	22	9
problem,s	20	31
fire	12	19
flood,s	28	62
tornado	7	14
hurricane	9	5
war	86	75
nuclear	15	20
nuclear war	6	10
bomb,s	18	8
death	17	6

FALLOUT SHELTER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses

	E	W
FOOD, WATER, SUPPLIES	385	340
food	155	193
canned food, goods	31	-
cans	10	-
water	97	89
air	17	19
supply, les	29	-
provisions	13	-
light	12	12
radio	7	4
blanket,s	14	9
clothing	14	9

DARK, CROWDED, USELESS	311	276
dark,ness	59	82
cold	33	31
small	31	13
crowd,ed,ing	55	57
cramped	13	-
dirt	-	14
useless	50	47
no	7	11
impossible	10	-
impractical	13	-
old	-	10
outdated	9	-
antiquated	11	-
waste	14	-
unnecessary	6	11

FEAR, PANIC	145	44
fear	49	-
scary,ed	36	29
where?	16	4
panic	34	11
sad	10	-

THE 50'S	94	7
the 50's	69	-
Happy Days	11	7
the 60's	14	-

Main Components	Percentage of Total Score	East	West
SAFETY, PROTECTION, LIFE	20	22	22
WAR, BOMBING, DEATH	17	23	23
NUCLEAR, RADIATION	9	12	12
BASEMENT, UNDERGROUND	23	18	18
FOOD, WATER, SUPPLIES	12	12	12
DARK, CROWDED, USELESS	10	10	10
FEAR, PANIC	4	2	2
THE 50'S	3	0	0
MISCELLANEOUS	2	1	1

Total Scores 3227 2775

BASEMENT, UNDERGROUND	732	506
basement,s	144	111
cellar	9	-
underground	175	153
bomb shelter	22	-
shelter	9	24
yellow sign	28	-
sign,s	16	22
siren, warning	25	3
home	27	-
house	15	5
backyard	18	-
cave	19	12
hole	41	16
box	11	-
place	11	-
school,s	64	26
subway,s	15	-
down	-	10
temporary	19	-
concrete	23	53
concrete	10	54
lead	15	7
thick wall	16	-
cover	-	10

Main Components and Responses

SAFETY, PROTECTION, LIFE	643	623
safe,ty	210	207
protect,ion	139	127
hide,ing	51	14
security	13	15
civil defense	24	-
save	-	10
sign,s	16	22
survive,al	32	46
prepare,d	9	9
good	-	9
necessary	29	13
need,ed	19	27
help	9	17
life	14	15
people	31	46
family	47	46

WAR, BOMBING, DEATH	563	634
war	177	255
W II	19	-
attack	10	-
air-raid	8	11
bomb,s,ing	155	191
explosion	8	10
death	61	86
destruction	34	21
disaster	23	21
emergency	28	11
danger	40	9
tornado	-	19

NUCLEAR, RADIATION	288	322
nuclear	74	147
nuclear war	60	46
nuclear attack	13	11
radiation,ioactive	132	118
atomic	9	-

MISCELLANEOUS	66	23
U.S.S.R.	19	14
Reagan	11	-
peace	-	9
wait,ing	14	-
brassiere	12	-
jock strap	10	-

BLAST SHELTER

PERCEPTIONS AND EVALUATIONS

Main Components And Responses	E	M
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WAR, NUCLEAR, FALL-OUT	382	390
war	123	188
W 11	12	8
planes	12	-
air-raid	17	28
nuclear	39	71
nuclear blast	12	-
nuclear war	44	7
fall-out	74	60
radiation	49	28

BOMBS, EXPLOSION	335	381
bomb, s, ing	246	263
explosion	68	56
bomb scare	11	-
guns	-	21
noise, y	10	20
loud	-	21

UNDERGROUND, BASEMENT	506	261
underground	193	120
basement	60	41
cellar	22	-
fall-out shelter	26	9
bomb shelter	57	-
shelter	14	11
home	-	10
building	8	18
cave	44	-
subway	27	-
ground	-	10
deep	17	12
hole	8	22
hole in wall	10	-
location	9	-
cover	11	8

CONCRETE, STEEL	199	125
concrete	80	52
cement	23	44
steel	30	8
sturdy	12	-
strong	13	13
hardened	10	-
thick, wall	20	-
sand, bags	11	8

Main Components	East	West
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WAR, NUCLEAR, FALL-OUT	14	17
BOMBS, EXPLOSION	12	16
UNDERGROUND, BASEMENT	19	11
PROTECTION, SAFETY	23	26
CONCRETE, STEEL	7	5
DARK, CROWDED, USELESS	12	11
FOOD, WATER	4	5
DESTRUCTION, DEATH	7	6
MISCELLANEOUS	2	2

Total Scores 2687 2360

PROTECTION, SAFETY	623	620
protect, ed, ion	180	184
safe, ty	199	182
secure, ity	27	27
hide, ing, den	48	36
run, ning	13	8
survive, a l	12	29
help	22	46
people	31	41
family	23	16
children	11	-
civil defense	17	25
siren, s	10	-
necessary	20	7
good	-	11
first aid	-	9
need, ed	10	19

MISCELLANEOUS	52	39
test, ing	8	11
temporary	15	-
Eisenhower	9	-
U.S.S.R.	9	13
military	-	15
silo	11	-

Main Components And Responses	E	M
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CONCRETE, STEEL	199	125
concrete	80	52
cement	23	44
steel	30	8
sturdy	12	-
strong	13	13
hardened	10	-
thick, wall	20	-
sand, bags	11	8

DARK, CROWDED, USELESS	312	270
dark	52	41
cold	10	14
crowded	25	27
small	15	-
inadequate	12	-
useless	47	49
stupid	-	19
impractical	9	-
unnecessary	10	-
dumb	21	-
waste	6	21
expensive	16	6
why?	6	24
impossible	10	-
where?	23	14
not available	9	-
none	-	9
scary, ed	17	23
fear	24	5
don't know	-	18
don't want	10	-

FOOD, WATER	97	129
food	42	80
water	29	43
dried food	9	-
canned goods	12	-
air	5	6

DESTRUCTION, DEATH	181	145
destruction	30	7
disaster	16	16
emergency	-	16
fire	31	26
danger	26	8
death	69	61
furnace	-	11
blackouts	9	-

CIVIL DEFENSE VOLUNTEER

PERCEPTIONS AND EVALUATIONS

Main Components and Responses	E	W
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HELP, AID	370	365
help,ing	120	138
helper	70	77
helpful	109	125
aid	60	25
guide	11	-

MILITARY, NATIONAL GUARD	200	121
military	36	-
Army	44	53
National Guard	69	35
Air Force	-	10
fight,ing	14	-
guns	10	-
weapons	10	-
minutemen	11	-
soldier	-	12
draft	6	11

SHELTER, PROTECTION, SAFETY	282	214
shelter,s	70	21
bomb shelter	6	10
sign	12	-
siren,s	16	32
protector	15	9
protect,ion	31	22
safety	29	48
Red Cross	37	63
first-aid	21	-
life	13	9
food	21	-
home	11	-

DISASTER, WAR, EMERGENCY	199	193
war	63	107
WW II	15	10
disaster,s	48	24
emergency	52	6
tornado	-	11
fire	-	20
blackout,s	21	-
flood	-	15

Main Components	Percentage of Total Score	East	West
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HELP, AID	17	21
MILITARY, NATIONAL GUARD	9	7
SHELTER, PROTECTION, SAFETY	13	12
GOOD, PATRIOTIC, CARING	19	19
DISASTER, WAR, EMERGENCY	9	11
PEOPLE, MEN, CITIZENS	16	15
TRAINING, PREPAREDNESS	5	4
HELMET, HARD HAT	4	2
CRAZY, NO PAY	7	3
MISCELLANEOUS	2	5

Total Scores 2179 1722

GOOD, PATRIOTIC, CARING	406	323
good	126	104
necessary	31	16
need,ed	37	73
important	19	-
defend,ing	14	-
brave	35	13
patriot,ic	19	13
dedicated	20	-
caring	23	25
give,ing	10	14
concerned	9	33
admirable	14	-
understand	11	-
useful	11	-
willing	-	23
knowledge,able	4	9
authority	13	-
peace	10	-

Main Components and Responses	E	W
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PEOPLE, MEN, CITIZENS	338	261
people	40	74
person	36	35
man,men,male	48	35
woman	15	19
me	-	19
volunteer,s	12	9
warden	17	-
fireman	21	-
police	6	16
worker	39	23
friend	7	11
neighbor	25	8
neighborhood	15	-
citizen	23	-
community	20	12
country	14	-

TRAINING, PREPAREDNESS	102	74
trained,ing	67	29
prepared,ness	23	12
work	6	27
plan	6	6

HELMET, HARD HAT	90	40
helmet	44	-
hat	26	-
hard hat	20	10
white,hat	-	19
green	-	11

CRAZY, NO PAY	148	44
crazy	29	12
stupid	-	12
useless	18	-
not needed	12	8
free	-	12
unpaid	25	-
no pay	21	-
unemployed	11	-
paid	10	-
who?	11	-
public spies	11	-

MISCELLANEOUS	44	87
U.S.	10	-
government	16	10
old	-	23
time	9	39
radio	9	15

APPENDIX II

THE ASSOCIATIVE GROUP ANALYSIS (AGA) METHOD

DATA COLLECTION, ANALYSIS, AND MAIN CATEGORIES OF INFERENCES

Associative Group Analysis (AGA) is a research method for assessing the perceptions, psychological meanings, and attitudes of specific social or cultural groups. The central assumption behind the AGA approach is that a group's psychological meaning of a particular theme may be reconstructed from their word associations to the theme. Ever since Noble (1952) introduced his verbal-association-based measure of meaningfulness, investigators have been exploring ways of using verbal associations to assess various dimensions of psychological meaning. Especially important in this field are the investigations of James Deese (1962, 1965). The AGA method was developed for the systematic assessment of subjective culture. It is used to draw inferences about such important variables as cultural meanings (Szalay and Brent, 1967), attitudes (Szalay, Windle, and Lysne, 1970), and value orientations (Szalay, Brent, and Lysne, 1968). The AGA method has proved capable of measuring psychological meanings with an efficiency comparable to that of other widely used methods---similarity ratings, substitution tasks, and the word-adapted semantic differential (Szalay and Bryson, 1972).

In contrast to traditional word-association approaches in which the subjects are asked to give a single response for each stimulus word in the AGA method the subjects give as many responses as they can think of in one minute. The technique is referred to as "continued free verbal association." This "continued association" technique produces response material with sufficiently broad foundation without having to use extremely large samples---a requirement that frequently makes socially relevant studies unfeasible and impractical. Generally, samples of 50 to 100 subjects are used to represent each particular group. The samples include preferably equal numbers of males and females. The requirements for representative sampling are fundamentally the same as in any other data collection aiming at generalizable results.

Through careful, systematic selection of stimulus themes, investigations can be focused on any desired problem areas or domains. Several related themes are selected in the representation of each domain in order to observe consistent trends on a broader data base and thus produce more generalizable findings. A strategy has been developed for selecting themes that are representative of the domains for each culture group (Szalay and Maday, 1974).

DATA COLLECTION, TEST ADMINISTRATION.

The standard AGA testing conditions of group testing, written form of administration, and working with little time pressure help promote more

spontaneous, meaning-mediated responses. Individual subjects remain anonymous (demographic data being obtained by a brief questionnaire that carries the same code number as the subject's test slips); assurance of this helps to reduce the likelihood of bias in the form of acquiescence, considerations of social desirability, etc.; it also opens up a variety of emotion-laden issues to objective inquiry.

The subjects are asked to write free verbal associations to each of the stimulus words presented on randomly sequenced cards. They receive the following instructions, as well as the test material, in their native language:

This experiment is part of a study, in verbal behavior, and this particular task involves word associations. These are group experiments, and your responses will not be evaluated individually but collectively for your group. Your responses are completely anonymous, and you are free to give your associations concerning any subject. There are no bad or wrong answers, so do not select your responses but put them down spontaneously in the order that they occur to you.

The task is easy and simple. You will find a word printed on each slip of paper. Reading this stimulus word will make you think of other associated words (objects, ideas, issues, etc.). You are asked to write as many separate responses as you can think of in the time allotted. Try to think of one-word responses and avoid long phrases or sentences.

It is important that in giving your responses you always take the given stimulus word into consideration. For example, if the stimulus word was *table* and your answer was *writing*, in giving the subsequent responses you must refer back to *table* and avoid "chain" responses (*writing*, *pen*, *ink*, *blue*, *ocean*, *sail*,....).

Please work without hurrying, but do your best to give us as many answers as possible. One minute will be given for each word. At the end of each minute I will ask you to go on to the next word. Do not work longer than one minute on any word and do not read ahead or return to others later.

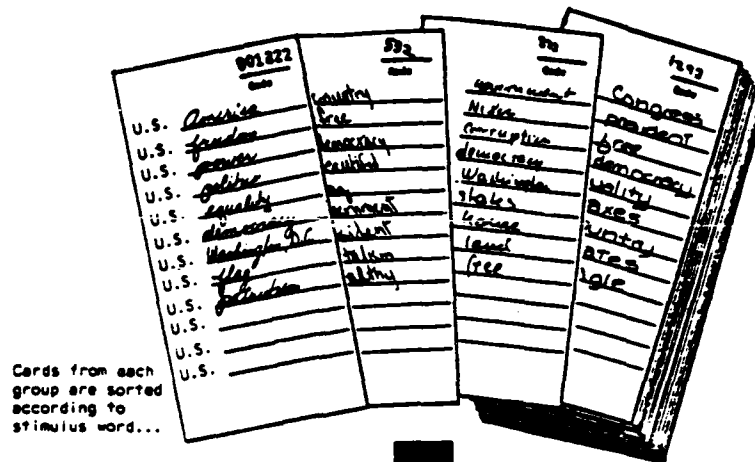
DATA ORGANIZATION: SCORING RESPONSES, COMPILING GROUP RESPONSE LISTS

A logical assumption is that earlier responses are more meaningful than later ones, that the first response has more salience to the subject than the last. This assumption is supported by empirical evidence. The stability of responses obtained at different rank places was studied by comparing the responses obtained from the same group in two separate sessions one month apart (Szalay and Brent, 1967). The responses obtained at higher rank places in the first test showed higher stability in the second test than did the responses first obtained at lower rank places. The coefficients of stability obtained in the comparative study provide the weights for the various rank places. The weights, beginning with the first response, are 6,5,4,3,3,3,3,2,2,1,1,1.

The cards are organized by stimulus words, and the individual responses from all the subjects are tallied into group response lists. Certain responses will occur to many members of the group; other responses may be given by only one or two members. In order to focus on the shared meaning for a particular group, the responses given by only one person are excluded from analysis. Dropping the idiosyncratic responses helps us to concentrate on the more stable, shared responses and simplifies the data processing and analysis.

UNITED STATES

Formation of Group Response Lists from Individual Associations



and the responses to each word are then organized into "group response lists."

The group response lists are used as the basis for analysis and comparisons.

UNITED STATES GROUP RESPONSE LIST	
response	score
America	158
country	124
freedom	94
democracy	82
government	75
home	73
of America	58
U.S.A.	57
national anth	43
.	.

If we look at associations produced by members of our own culture group, they appear to be just plain common sense. We tend to feel that everybody would produce similar responses and that the responses do not tell us anything new. This impression is probably the major reason that the potential information value of associative response distribution has not been clearly recognized in the past. The systematic exploitation of associations as an important information source is the central objective of the AGA method. The feeling that everybody would produce similar responses is a culture-bound impression. This becomes apparent if we compare associations obtained from groups with different cultural backgrounds. A comparison of U.S., Mexican, and Colombian responses to the stimulus United States, for instance, reveals some significant similarities as well as differences, none of which are accidental or ephemeral. As illustrated by the group response lists in the following table the top few responses indicate agreement on the United States being a country, with each group stressing different attributes: the Americans emphasize freedom and democracy, the Mexicans stress

power and capitalism, and the Colombians place emphasis on power and development. All three lists contain numerous responses which have high scores or salience for one culture group and low or no salience at all for the other group. For example, war and exploitation are two of the ten most frequent responses to United States from both the Mexicans and Colombians. These responses do not even appear in the twenty most frequent associations of the Americans and, in fact, exploitation never occurred to the Americans at all. A quick glance at the most frequent responses readily reveals that they are not accidental, but deeply rooted in the cultural background, religious-moral philosophy, life conditions, and contemporary experiences of the respective groups. The lengthy response lists provide a rather exhaustive inventory of mosaic elements which make up each group's image of a particular theme.

UNITED STATES

Comparison of Most Frequent Associations from Three Culture Groups

U.S. Group Response	Score	Mexican Group Response	Score	Colombian Group Response	Score
America	158	power,ful	137	country	132
country	124	country	136	power,ful	115
freedom	94	capitalism,st	111	gringos	102
democracy	82	war,s	100	development	71
government	75	potency,power	97	potency, power	70
home	73	technology	71	big, large	60
of America	58	development	66	war,s	57
U.S.A.	57	rich,es	61	America	51
national anth.	43	money	60	exploit,ation	50
people	42	exploit,ation	50	nation	46
power,ful	42	imperialism,t	49	dominion	46
great	37	arms,ament	35	progress	43
flag	34	dollar,s	30	empire	43
50 states	33	government	26	North America	37
big, large	32	bad, evil	25	money	35
free	26	gringos	24	Reagan	30
wealth	22	big, large	23	blonde	28
president	20	good	20	help	28
rich,es	19	destruction	17	capitalism	28
army	19	advance	17	yankees	27

Each group response list represents a rich information source reflecting the group's characteristic understanding of the stimulus word, including perceptual and affective details which are frequently unverbalizable and below their level of awareness. Actually, a systematic examination of such response lists has shown that every response contains a piece of valid information about the group's characteristic understanding and evaluation of the stimulus word. Responses with a sizable score value (10 to 15) are rarely accidental. Using conservative estimates, score differences of 18 can be considered significant at the .05 level, score differences of 24 at the .01 level. The wealth of information provided by the group response list is impressive, since even small score differences can have significant implications for communication and behavior (Szalay et al., 1972).

COMPARABILITY OF RESPONSE LISTS

The treatment of the responses is consistent with the conceptualization of subjective meaning as a composite of several main perceptual and evaluative components. It reflects enterprise to reconstruct this composite meaning through a reproduction of its main components by their context, and in their actual saliences. In the framework of our analysis, the subjective saliences of specific perceptual and evaluative elements is inferred from the response scores. The more people give a particular response, like evacuation, the greater is the salience of this mosaic element, for instance, in the subjective meaning of UNITED STATES. In our effort to achieve a faithful proportionate reconstruction of the group's subjective meaning we rely on all of the shared responses given by the members of a group to a particular issue or theme. The salience of each mosaic element revealed by a particular shared response is revealed by the response score which is a function of how many people gave this response and with what subjective weight. Along this rationale of proportionate representation the relative salience of a specific response or of a particular response cluster is not only a function of the absolute score value but depends also on the relationship of the responses to the total score accumulated by all shared responses given to that particular stimulus theme. The same score value shows less salience in the context of a group which produces many responses, than in the context of another group which produces fewer responses.

In the following treatment of the data the requirements following from this principle of proportionate representation are consistently maintained. It is particularly important to keep this distinction in mind to understand certain basic differences between the AGA and the survey results. In the case of the surveys the number of those who took a favorable stand and those who chose a negative position on a particular question represent absolute numbers reflecting positive vs. negative choices. In comparison the response scores used by AGA convey relative saliences. To maintain consistency with this rationale of relative saliences in the processing of the AGA data, as necessary, various types of score adjustments are made to maintain comparability. The following two examples may be indicative.

In the comparative study of U.S., Mexican, and Colombian cultural meanings, we found that in responding to 160 themes, the Mexicans gave 15% fewer responses than the Americans and the Colombians gave 10% fewer responses than the Americans. To account for this discrepancy, unrelated to the subjective meanings, an adjustment score was added to the Mexican and Colombian scores to make them more comparable. To maintain comparability samples of 100 respondents are generally used. In a few instances where we have had to compare smaller groups, like 75 adults with 100 students, we adjust the scores of the smaller group (in this case by 33%) to maintain direct comparability.

MAIN CATEGORIES OF INFERENCES, THEIR RELIABILITY AND VALIDITY

For the identification of various psychocultural characteristics, several analytical procedures have been developed, relying on the group response lists as the main data base.

GROUP PERCEPTIONS, IMAGES, AND MEANINGS

The group response lists contain a rich variety of responses, each reflecting a different mosaic element of the total psychological meaning. Grouping responses with similar content together helps to identify the main components of meaning and their characteristic saliences. This content analysis is performed by two or more independent judges whose background and frame of reference is by and large similar to that of the group tested. If Mexican and American groups are to be tested, the coders would be a Mexican and an American. Each judge receives a list of all responses to a particular stimulus word (the Korean responses translated into English). They choose eight to sixteen categories which they feel subsume all the responses in meaningful groupings relevant to the stimulus word, and then assign the responses to these categories. The categories may be of low or high generality, concrete or abstract; however, they should be simple, not too abstract, and at the same level of generality. It is important to choose clearly different, well-delimited categories that do not overlap. It is necessary to choose between alternative possible categories: some will fit into the total system of categories better than others; some will communicate better than others. Responses that do not seem to fit into any of the categories are put into a miscellaneous category. Responses that may be assigned with equal justification to two or more categories are recorded for further discussion. The coders then meet with a senior researcher to discuss their agreements and disagreements. Where there are discrepant categories, three solutions are possible: new alternative categories, category combinations at a higher level of abstraction, or complementary categories. The final categories are selected to highlight the most characteristic aspects of the groups' responses to the stimulus word. This method maintains comparability of results in the analysis of the responses from the different cultural population samples. Once the categorization is finalized, a final check is required to make sure that all the responses are included and that they have their proper response scores.

Each category is described by a score and by a label to indicate its content. The category score is the sum of the scores of each subsumed response and expresses the importance of the category for a particular group. If a category yields a high score for a group, it may be said that the category constitutes an important meaning component of that theme for that group. The categories and category scores present a logical set of data from which the central meaning of the stimulus word may be deduced, either directly or through advisors or background literature on the culture.

Using this procedure to analyze the stimulus theme United States, for example, we find a sizable group of responses dealing with "Progress, Development." The overwhelming majority of these responses come from the

Mexicans and Colombians while only a few of the American responses fall in this category. The responses dealing with power, potency, size and strength show how much attention each group pays to the might of the United States. A third cluster shows that the Americans place much more emphasis on freedom and justice than the Mexicans or Colombians. Through this process of content analysis, the judges assign all responses to main response categories of U.S., Mexican, and Colombian cultural meanings.

UNITED STATES

Selected Main Clusters of Responses

Main Components and Responses				Main Components and Responses				Main Components and Responses										
		US	MEX	COL			US	MEX	COL			US	MEX	COL				
FREEDOM, JUSTICE, UNION				189	52	24	PROGRESS, DEVELOPMENT				19	229	234	POWER, BIG		114	25	26
freedom		94	-	-	development	desarrollo	-	66	71	power,ful	poder,lo	42	13	23				
free	libre	26	-	6	progress	progreso	-	15	43	potency,power	potencia	-	97	70				
united	unida	19	-	6	technology	tecnologia	15	71	15	big, large	grande	42	23	60				
justice	justicia	14	8	-	technology	tecnologia	15	71	15	strong	fuerdes	11	-	8				
liberty	libertad	14	14	-	technology	industrial	-	7	15	super power		19	-	-				
opportunity		11	-	-	science	ciencia	-	14	4	male chauvin, machista		-	-	-				
independence	independie	6	10	-	cars	carros	-	-	10									
unity	unidad	-	10	-	intelligent	inteligent	-	14	15									
life	vida	5	10	-	interested	interesado	-	-	10									
union	union	-	-	12	interest	interes	-	14	-									
					important	importante	-	10	6									
					help	ayuda	4	-	26									

In the case of the responses to United States the judges used twelve categories to identify the most salient components of the groups' contemporary meanings. The scores the various components accumulated in this process reflect the subjective salience of each component for the cultural groups compared. The main content categories obtained by this analysis describe the total subjective meaning of the theme in terms of the main components characteristic of each group's understanding. Because there is usually a difference between the two groups in their level of responding, the category scores are converted to percentages of the respective total scores in order to make them directly comparable.

This process of using relevant categories for the identification of main response clusters which are separate from each other and internally homogenous aims to simplify the rich and diverse picture of hundreds or so separate mosaic pieces to a simpler picture based on fewer number of main components. This simplification involves human judgments and a certain degree of inescapable subjectivity. A critical consideration here is that while the related responses are aggregated in considering their relationship, the analysts have to consider the context of the stimulus theme. The reader with deeper and more specialized interest is encouraged to review the actual responses rather than to rely merely on the clusters identified through the content analysis.

UNITED STATES

Content Analysis Revealing Main Components of Perception and Evaluation

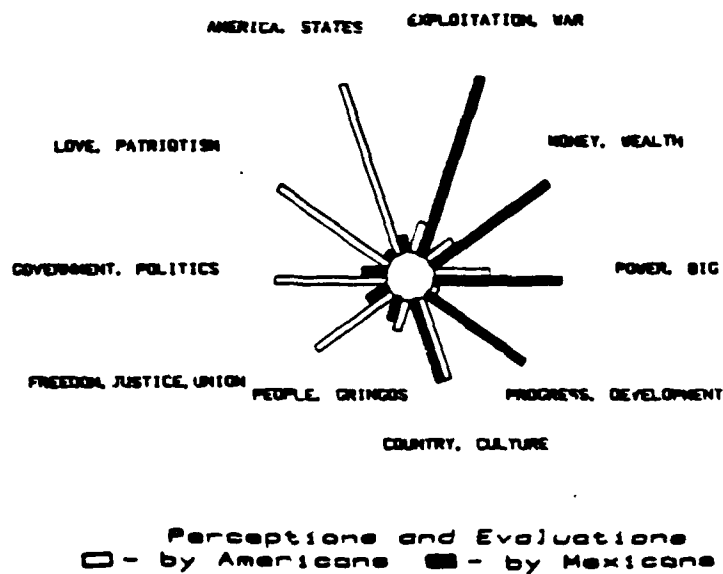
Main Components	Percentage of Total Score		
	US	MEX	COL
AMERICA, STATES	24	2	5
FREEDOM, JUSTICE, UNION	12	3	1
GOVERNMENT, POLITICS	14	3	1
LOVE, PATRIOTISM	17	1	1
COUNTRY, CULTURE	11	11	19
EXPLOITATION, WAR	4	24	19
PROGRESS, DEVELOPMENT	1	15	14
POWER, BIG	7	16	15
PEOPLE, GRINGOS	4	3	10
MONEY, WEALTH	4	18	6
OTHER COUNTRIES	2	2	4
MISCELLANEOUS	0	1	1
Total Adjusted Scores	1525	1579	1884

The reliability of the content analytic method was tested by comparing the performance of five judges working independently from each other. The interjudge reliability measured by product-moment correlation across 76 categories was .7. The validity of such inferences on particular single meaning components cannot be directly assessed because simple criterion measures are not available. There are, however, findings which show, for instance, that the salience of these meaning components provides valid predictions on the meaningfulness of messages in intercultural communications. Communication material that capitalized on salient components of cultural meanings was judged by members of this culture as relatively more meaningful than comparable communication material produced by cultural experts (Szalay, Lysne, and Bryson, 1972).

Another way to present the results of content analysis is the semantograph. It shows the main categories of group meaning by using radially arranged bar graphs. The dark, shaded bars represent the main components of Mexican interpretation and the contoured bars represent the main components of American interpretation. Where the bars are similar in length, substantial agreement exists between U.S. and Mexican responses. The bars are arbitrarily arranged so that those on the left of the semantograph show meaning components especially strong (salient) for the U.S. group and those on the right show meaning components especially strong for the Mexican group. This presentation is designed to help the reader to recognize components on which his own group and the other culture group are in agreement or disagreement.

The Semantograph

UNITED STATES



Effective communication requires that we address members of other cultures on components that are salient to them. Thus, in communicating with Spanish-speaking groups on education, components that are predominantly Hispanic (e.g., politeness, family background, etc.) can be expected to elicit interest and understanding. For those familiar with the cultural backgrounds of the groups producing the associations, it is apparent that the high-scoring responses reflect their salient characteristics. The response polite from an Hispanic group, for example, reflects their emphasis on formal, polite behavior. With a deeper knowledge of the cultural background, all the responses can be traced to the religious-moral philosophy, history, life conditions, and contemporary experiences of the respective culture groups. These trends of cultural interpretation, of course, are not limited to single concepts; rather, they reflect general cultural experiences, life conditions, and philosophies characteristic of the groups compared.

SUBJECTIVE PRIORITIES OR IMPORTANCE

THE DOMINANCE SCORE

Every group has its own set of priorities: Americans are said to be preoccupied with material comfort, technical details, and scientific progress, while Hispanics are said to focus on family traditions, personal friendships, and spiritual values. The psychological priorities characteristic of a particular group can be inferred from dominance scores. How important a certain subject, theme, idea, or issue is to a particular group can be inferred from the number of responses they give to it as a stimulus word. The dominance score, simply the sum of the scores of all responses elicited by a particular theme or domain, is used to measure subjective importance. It is a modified version of Noble's (1952) "meaningfulness" measure.* The priorities of different social or cultural groups can be compared by looking at their dominance scores on the same concepts. Dominance scores reveal group-specific priorities not only on single issues but also for larger domains, as shown in the example below.

DOMINANCE SCORES OF BLACK AND WHITE GROUPS

Domain and Themes	White	Black	Domain and Themes	White	Black
ISMS			SOCIAL PROB.		
democracy	636	449	society (U.S.)	316	342
socialism	396	280	social class	402	475
capitalism	362	298	social justice	376	378
communism	733	502	social progress	260	334
mean	532	382	mean	338	382
NATION			NEEDS		
nation	661	591	goal	514	581
United States	877	765	expectation	236	296
patriotism	508	222	desire	621	701
Americans	605	648	valuable	832	876
mean	663	556	mean	551	614

These results come from a study of Black and White blue-collar workers who were compared on the relative importance they assigned to 60 selected themes in 15 domains. The table indicates that the Black group was more concerned with social problems and needs, while the White group placed more emphasis on political isms and nationalism.

*Noble (1952) first demonstrated that the number of associations given by a person in a continued association task of one minute provides a measure of "meaningfulness" that is highly correlated with the person's familiarity with the word and its meaning.

The group-based dominance scores have been found to be highly culture-specific (Szalay, Moon, Lysne, and Bryson, 1971) and have a reliability of

More information on the dominance scores can be found in Communication Lexicon on Three South Korean Audiences (Szalay, Moon, and Bryson, 1971).

OVERALL SIMILARITY IN PERCEPTIONS

THE SIMILARITY COEFFICIENT AND INTRAGROUP HOMOGENEITY MEASURE

Without considering the actual nature of differences one may ask generally to what extent do two groups differ in their understanding of a particular theme. Free verbal associations offer an empirical answer to this question based on the principle that the closer the agreement between the associations of two groups on a particular theme, the more similar their meanings are. To measure the extent to which two groups agree in their perception and understanding of a particular theme, idea, or issue, the coefficient of similarity is used.

Similarity in subjective meaning is inferred from the similarity of response distributions measured by Pearson's product-moment correlation. Close similarity (high coefficient) means that the high frequency responses produced by one group are also high frequency responses for the other group; similarly, the low frequency responses produced by one group will generally be the same as those produced by the other group. The scores for the same (translation equivalent) responses from two groups represent the pairs of observations (x,y) used in this calculation. N represents the number of pairs of observations, that is, the number of word responses used in the calculation of a particular coefficient. The coefficients provide a global measure of the level of similarities and differences without elaborating on the semantic components on which they are based.

In the example below the problem areas or domains are presented in descending order of agreement. The reactions of the Black and White groups were most similar in the areas of education and family. The problem areas showing least agreement, social problems and needs, are the same areas in which the dominance scores reflected more concern from the Black group.

INTERGROUP SIMILARITY BETWEEN BLACK AND WHITE GROUPS

Domain and Themes	r	Domain and Themes	r
EDUCATION		NEEDS	
school	.90	goal	.38
knowledge	.88	expectation	-.47
educated	.92	desire	.76
to learn	.79	valuable	.90
mean	.88	mean	.53
FAMILY		SOCIAL PROBLEMS	
father	.80	society (U.S.)	.38
mother	.92	social class	.50
family	.84	social justice	.15
home	.79	social progress	-.04
mean	.84	mean	.25

The reliability of the coefficient of similarity measure was tested by comparing two groups obtained by splitting a larger group randomly into two halves; the coefficients produced on a sample of themes were then averaged. In a comparison of two split-half groups on 26 themes, a correlation of .73 was obtained. An earlier comparison resulted in an r of .82, calculated over 40 themes. The coefficient depends a great deal on the particular theme under consideration. Themes that are specific and concrete produce steep response distributions characterized by a few widely shared responses, or meaning elements. The theme family, for example, is specific and concrete, and for everybody it means to a certain extent father and mother. The themes concern and anxiety are less definite, and instead of everybody agreeing on a few particularly salient responses, people produce a broad diversity of responses. In this situation, low correlation does not necessarily indicate low reliability of the measure but may be a consequence of the indeterminate nature of the theme. In such a situation the stability of the measure may better estimated by considering how stable a coefficient is within particular themes rather than across all themes. To assess this stability, the coefficients obtained on the same themes for the two split-half groups were correlated over the 26 themes and produced an r of .89.

Certain Limitations of This Measure. Calculation of the similarity coefficient requires literal agreement; it does not take into account semantically closely related responses such as home and homely or synonyms such as house and home. Consequently, this measure is bound to underestimate the actual level of similarity. These biases are likely to increase the more the groups differ in their vocabularies. One could argue naturally that differences in vocabularies are not accidental and they

themselves are likely to reflect on psychocultural distance. Nonetheless, as some of these differences in the words used do not correspond to similar differences in perceptions, they are likely to give a somewhat inflated estimate of the actual perceptual differences. These biases are usually not significant and they are in general randomly distributed; in other words, the bias is likely to be the same regardless of the words used. This should not interfere with the utility of the coefficient to provide a valid estimate of the relative level of semantic differences.

In other words, the coefficient of similarity cannot overestimate similarity but it may overestimate the degree of differences in the perceptions of two groups. This problem can be offset through the use of one of the other analytic techniques developed with the AGA method. Once the similarity coefficient has been used to identify themes where the greatest differences are, it is desirable to take a closer look by categorizing the semantically related responses into clusters. In the content analysis the total score of the response cluster (synonyms, partial synonyms), rather than the individual response scores, represents the main source of information by revealing the salience of the main components of perception and evaluation. Thus, for instance, the nature and intensity of emotional ties projected into people's relationships by a particular group emerges from the total score accumulated by such responses as love, affection, and friendship. In this analysis the scores of single responses (e.g., synonyms) are inconsequential. The differences between groups may then be identified by a comparison of the scores showing the salience of the main attitudinal and perceptual components.

While the similarity coefficient is useful in measuring overall similarity or distance, the content analysis may be used to identify more specific cultural dispositions such as the Puerto Ricans' tendency to see personal relations within the framework of family in contrast the disposition of Americans to see people as individuals independent of family.

Intragroup Homogeneity

A comparison of split-half groups shows how much agreement exists within a particular group on a particular stimulus theme. This intragroup agreement is affected by several factors.

One factor influencing the value of the coefficient is the size of the group. Based on 32 themes in the domains of family and health, mean coefficients were calculated using sample sizes of 13, 26, 52, 78, 104, and 156. They showed a distinct increase with the size of the groups compared. The rate of the increase is fast if we increase the size of small samples. For instance, an increase in sample size from 13 to 26 produced an increase of 27 points in the coefficient, while an increase from 52 to 104 produced an increase of only 9 points. Thus, there is a distinct decline in the growth rate in the case of large samples, and the coefficients come close to their plateau with a sample size of 200. Correlations do not generally increase just because the base of their calculation is extended. An explanation is likely to be found in the nature of mechanics of the calculation; the relatively large number of 0 scores obtained with a small sample decreases the correlation value.

Other important factors influencing the homogeneity coefficient relate to the nature and characteristics of individual themes under consideration. The variations are apparently explicable by the fact that some themes and domains are more concrete, definite, tangible (e.g., car, money), while others are more indeterminate, unobservable, abstract (equality, expectation).

These variations may be illustrated by calculating coefficients of homogeneity on 16 themes in the family domain (family, mother, father, home, etc.) using three different sample sizes: 13, 52, and 156. In contrast to the wide range of variation (-.12 to .70) observed at the level of the smallest sample, in the case of the largest sample the range was narrower (.72 to .96). Furthermore, the mean coefficient based on a sample size of 156 was .90, in strong contrast to the mean of .35 obtained with a sample size of 13. As a tentative explanation the phenomenon of "cultural sharing" (D'Andrade, 1959) seems appropriate. It follows from the rationale of this sharing phenomenon that larger groups, which provide a broader basis for observations, can be more completely described than smaller ones. These data underscore the importance of working with a sample size of at least 50.

ATTITUDES AND EVALUATIONS

THE EVALUATIVE DOMINANCE INDEX (EDI) AND THE CONNOTATION SCORE

How people evaluate ideas and events---ERA, arms embargo, human rights, legalization of marijuana---can be assessed without asking them directly. Attitudinal inferences are derived from the distribution of associative responses with positive, negative, and neutral connotation. Based on empirical evidence that the evaluative content of associative responses is a valid indicator of the evaluative content of the stimulus word (Staats and Staats, 1959), a simple attitude index was developed to express the relative dominance of responses with positive or negative connotations (Szalay et al., 1970). First, the proportions of positive and negative categories are assessed by two independent judges who place the associative responses into positive, negative, and neutral groups. (In previous experiments this grouping task was performed with an interjudge agreement of .93 measured by product-moment correlation across categories.) Next, using the total response score for each of the three groupings, an index of evaluative dominance is calculated by the following formula:

$$EDI = \frac{\text{scores of positive responses} - \text{scores of negative responses}}{\text{scores of all responses}} \times 100$$

Based on this formula, group indices are obtained on each stimulus for each group. The distance between groups in their evaluations is measured by comparing EDI scores using Pearson's r coefficient.

A higher index implies more intense group evaluation, in either a positive or negative direction. The example below shows that Koreans are more negative in their evaluation of political systems, particularly communism. Their less negative evaluation of poverty and beggars may indicate more familiarity with or tolerance of these problems.

EVALUATIVE DOMINANCE INDICES FOR U.S. AND KOREAN GROUPS

Theme	U.S. Group	Korean Group
family	25	22
proud	12	28
educated	51	51
knowledge	50	44
offense	-27	-53
capitalism	10	-4
communism	-14	-32
equality	19	20
poor	-58	-28
beggar	-63	-42

The EDI measure is described in A Study of American and Korean Attitudes and Values Through Associative Group Analysis (Szalay, Lysne, and Brent, 1970; Szalay, Windle, and Lysne, 1970).

A direct method of assessing attitudes can also be used. It involves asking the respondents to give a general evaluation of each stimulus word after performing the verbal association task. To express whether the words mean something positive, negative, or neutral, they use the following scale:

- | | |
|--|------------------------------------|
| 3 - strongly positive, favorable connotation | -1 - slightly negative connotation |
| 2 - quite positive, favorable connotation | -2 - quite negative connotation |
| 1 - slightly positive, favorable connotation | -3 - strongly negative connotation |
| 0 - neutral or ambivalent feeling tones | |

A mean group attitude score is obtained for each stimulus word. Distance in evaluations is then measured by Pearson's r coefficient comparing two groups across stimulus words.

RELATEDNESS OF THEMES, CONCEPTS

THE AFFINITY INDEX

Measures of meaning similarity have considerable potential to assess how particular groups organize and interrelate elements of their environment. The associative affinity index measure indicates which words are related by a group to which other words and to what extent. The degree of relationship among these elements of a group's subjective world view is an important dimension of their cognitive organization. It is defined as the shared associative meaning of stimulus words as measured by the number of associations produced in common to these words (Szalay, 1965). Similar

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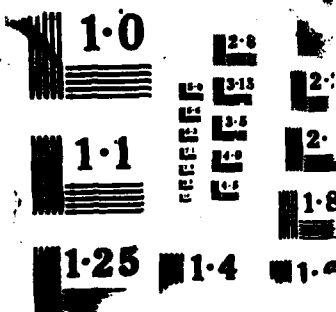
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concepts based on various theoretical positions are: overlap coefficient (Deese, 1962); verbal relatedness (Garskof and Houston, 1963); mutual frequency (Cofer, 1957); co-occurrence measure (Flavell, 1959); and measure of stimulus equivalence (Bousfield, Whitmarsh, and Danick, 1958). These concepts, however, use single-word associative responses rather than continued associations. The associative affinity index, a modified relatedness measure similar to those reviewed by Marshall and Cofer (1963), was developed for use with continued associations.

The index of interword affinity (IIA) measure the relationship of one theme (A) to another (B) for a particular group based on the responses in common to the two themes. The formula for the affinity of them A to B is as follows:

$$\frac{\text{score for responses in common} + \text{score for direct elicitation (A} \rightarrow \text{B)}}{\text{total score A}} \times 1000 = \text{index of interword associative affinity (A} \rightarrow \text{B)}$$

The formula for the affinity of theme B to theme A is:

$$\frac{\text{score for responses in common} + \text{score for direct elicitation (B} \rightarrow \text{A)}}{\text{total score B}} \times 1000 = \text{index of interword associative affinity (B} \rightarrow \text{A)}$$

In the two lists in the table below beggar and poverty were responses to the two stimulus words under consideration. The lower score of the response in common (e.g., 38 for beggar) is used in the calculation because that is the portion that is common to both. (Although hunger and hungry are very similar as well as poor and poverty, they are treated as separate responses here.) Also, in the calculation is the score of the response to one stimulus word that is identical to the other stimulus word (e.g., the stimulus hungry eliciting the response poor). They are said to elicit each other directly; hence, what is here measured is called direct elicitation.

INDEX OF INTERWORD ASSOCIATIVE AFFINITY

Stimulus A: HUNGRY		Stimulus B: POOR	
Response	Score (Colombian Group)	Response	Score (Colombian Group)
meal	107	hungry	77
food	73	money	71
hunger	65	poverty	44
poor	59	beggar	38
beggar	43	necessity	30
poverty	38	house	28
Total Score A	385	Total Score B	288

The score of the responses in common to HUNGRY (76) plus the score of the directly elicited response (59) indicates the total degree of shared meaning. The score representing the shared portion of the total meaning reaction cannot be taken by itself or it would be merely a function of the length of the response lists. Therefore, it is divided by the total score of all responses (e.g., to HUNGRY, 385). The score representing the shared portion of the total meaning reaction is thus expressed as a fraction of the

total score representing the total meaning reaction. This fraction is multiplied by 1000 in order to make it an integral number. The resulting number is called the interword affinity index, here calculated for HUNGRY to POOR:

$$\frac{76 + 59}{385} \times 1000 = 351 = \text{index of interword associative affinity, HUNGRY to POOR}$$

If the relationship of POOR to HUNGRY is being considered, the index would be different: the score representing shared meaning plus the score for the direct elicitation of hungry (77) would be divided by the total score for POOR (288), giving an index of 531.

The following matrix shows the relationship of eight themes from the motivational and economic domains. The generally higher indexes for the Black group suggest a stronger relationship between motivational themes and economic matters. On the relationship of single themes, the table shows that the Black group sees a relationship between expectation and unemployment, which does not emerge from the White group's responses.

**AFFINITY RELATIONSHIP OF MOTIVATIONAL AND ECONOMIC THEMES
FOR BLACK (B) AND WHITE (W) SAMPLES**

STIMULUS WORD A	Group	STIMULUS WORD B AND DIRECTION OF RELATIONSHIP							
		Goal	Expecta- tion	Desire	Valuable	The rich	The poor	Unem- ployment	Prosper- ity
		A-B B-A	A-B B-A	A-B B-A	A-B B-A	A-B B-A	A-B B-A	A-B B-A	A-B B-A
Prosperity	W	163	216	182	111	134	214	167	356
	B	190	361	243	237	151	346	139	396
Unemploy- ment	W	27	21	0	0	53	58	60	76
	B	117	110	161	85	82	94	87	124
The poor	W	66	66	25	8	146	123	97	110
	B	128	305	319	97	136	134	122	151
The rich	W	82	61	39	21	103	96	257	323
	B	134	108	193	88	200	194	306	373
Valuable	W	136	84	76	22	211	157		
	B	198	131	158	34	234	263		
Desire	W	230	162	320	113				
	B	132	110	285	87				
Expectation	W	80	227						
	B	97	224						

Indexes on single word pairs provide empirical data on single relationships; index averages calculated on the affinity of one word with a set of words representing a particular domain have more generality. Indexes calculated between domains may be expected to gauge cognitive organization at an even higher level of generality by revealing how closely interrelated are such areas for a particular group.

The reliability of this index in split-half comparisons was in the range of .90 (Szalay and Windle, 1968). The validity of this measure was estimated in a comparative study based on correlations of this measure with other independent measures: similarity judgment .73; judgment of relationship .77; grouping task .84. (The calculations were based on 66 index pairs.) (Szalay and Bryson, 1972).

More information on the affinity measure can be obtained in Communication Lexicon on Three South Korean Audiences (Szalay, Moon, and Bryson, 1971) and in Psychological Meaning: Comparative Analyses and Theoretical Implications, Journal of Personality and Social Psychology (Szalay and Bryson, 1974).

RELIABILITY AND VALIDITY OF ASSOCIATIVE RESPONSES

The continued verbal association task used in the Associative Group Analysis method produces extensive response distributions characterized by contrasts of high and low response frequencies. Even though conclusions are never based on a single response, the specific responses are the fundamental mosaic elements of information obtained in the association tasks and thus it is necessary to determine how their reliability. The answer to this question depends naturally on the number of people who gave the particular response and on the score the response accumulated based on its rank places of emission. The use of continued associations required the development of a weighting procedure to account for the differences in information value between first responses and the responses produced later at lower rankings. An empirically founded weighting system was derived based on the differential stability of responses observed in test-retest results. The following reliability scores were obtained as a function of the rank place.

STABILITY OF RESPONSES DEPENDING ON THEIR RANK PLACE

Stability and Weights	Rank of Response									
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Stability, percent of recurrence in retest	.60	.48	.42	.34	.32	.30	.25	.20	.15	.11
Weighting score based on the stability	6	5	4	3	3	3	3	2	2	1

This suggests that the average stability of a single response in continued association tasks is .32. This mean value represents the stability of an average response for an average person. The mean stability substantially increases when calculated on group basis. The increase becomes explicable by the observation that while a particular person may fail in retest to give the same response he gave in the first test, it frequently happens that other subjects will use the word as a response in the retest although they may not have given it in the first test. Thus, particularly the common responses substantially increase this stability on group basis.

As the Associative Group Analysis method draws inferences on groups rather than on individuals, the stability of responses on group basis requires particular attention. The group response lists representing response frequencies weighted by their individual rank places serve as the data base for such inferences. With focus on the shared responses of the group, responses given by only one person are disregarded as idiosyncratic. To assess the stability of group responses, split-half comparisons were made of a group of 100 subjects split randomly. Comparing the group response lists of the two groups of 50 subjects, an average stability of .61 was obtained. Interestingly, this stability increased gradually when split-half groups of larger sizes were compared ($N=100$, $N=200$). This phenomenon bears apparently on the cultural sharing phenomenon which has been described by several authors (Roberts, 1951; D'Andrade, 1959), but its implications go beyond our present concern with stability.

In connection with the problem of stability of response lists and the average stability of particular responses, it should be pointed out that this stability is also affected by the stimulus words considered. Certain stimulus words are specific and produce steep response distributions focusing on a definite set of responses. Others are less definite and produce responses with great intragroup variations. This definiteness depends partially on the characteristics of the stimulus theme such as its concreteness and specificity; it also depends on the homogeneity of the group's experiences in respect to the stimulus.

These different variables cause considerable variations in the stability of responses. Thus, the average response stability value reported above is a rough estimate. When more precise data are needed, as in the case of the evaluation of changes, learning and training effects, it is desirable to obtain stability data on the relevant themes in separate split-half stability tests. The stability of specific responses as a function of the size of responses is discussed in the relation to the problem of statistical significance.

Although the Associative Group Analysis method is used to derive information on diverse categories of variables, the inferences are usually based on entire response distributions or clusters of responses rather than on single individual responses. Thus, although the measures are based on responses, the problem of validity can be examined more meaningfully in the context of the particular measures rather than single responses.

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EXECUTIVE SUMMARY

REGIONAL AND DEMOGRAPHIC VARIATIONS IN PUBLIC PERCEPTIONS
RELATED TO EMERGENCY PREPAREDNESS

BY

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EXECUTIVE SUMMARY

CONCLUSIONS AND APPLICATIONS

This report contains new findings on public perceptions and attitudes related to civil defense and emergency management. The findings come from an in-depth study of public views and values conducted on population samples from the Eastern (N=200), Mid-Western (N=100) and Western (N=100) regions of the United States.

NEW INSIGHTS IN PUBLIC PERCEPTIONS

The purpose of the research was to assist the Federal Emergency Management Agency in understanding the frames of reference that would form the basis for engaging the interest and active participation of the American public and especially volunteers in emergency preparedness and public protection. To this end, this research offers new insights into how various segments of the public perceive certain emergencies and crises. The focus of attention is on public views and motivational dispositions that influence people's participation in and support of programs in the field of emergency preparedness.

The findings presented in this report are based on a method which does not pose direct questions. People's views and belief systems are inferred from the distribution of hundreds of thousands of spontaneous free reactions. Our investigations were organized to provide management with new information and insights on how to reach various segments of the public by taking their dominant views and values into systematic consideration.

The Associative Group Analysis (AGA) method used in this volume reconstructs belief systems along their dominant priorities and main parameters of organization. Consequently, the information presented here focuses not on issues like the percentage of people who approve of civil defense preparedness but rather on how civil defense preparedness is viewed by various groups.

HELPING MANAGEMENT TO REACH DIVERSE POPULATIONS

The insights offered in this volume allow management to understand the different perspectives and dispositions of various populations. This report focuses on the ways in which main segments of the population construe and approach civil defense and emergency preparedness. By providing a map of group perspectives on issues involved in emergency management, FEMA management can identify the kinds of information that are likely to influence these groups' views, reactions, and behaviors to problems related to emergency preparedness and civil defense. Such understanding allows management to develop programs and communications which can motivate the public toward constructive civil protection activities.

This executive summary briefly highlights the important dimensions of public perceptions regarding emergency management and civil defense preparedness. These perceptions are organized by examining the subgroups studied.

This report demonstrates that people's perspectives vary depending on age, gender, geographic location, as well as attitudes. Groups with different demographic characteristics approach certain aspects of civil defense and emergency preparedness in quite different ways.

This executive summary illustrates ways in which AGA-based insights can be used by FEMA management. An important aspect of the FEMA mission is to harness the efforts of volunteers toward the multiple goals of civil defense and emergency preparedness. This executive summary suggests some ways in which volunteers may be encouraged to work toward these goals by emphasizing those aspects of emergency preparedness that agree with their motivations, perceptions, and predispositions.

STUDENT AND ADULT PERSPECTIVES

The results demonstrate how perspectives vary depending on age and experience. Different perspectives and dispositions influence the way university students and adults construe and approach problems related to emergency preparedness and civil defense. Most agreement was found in their perceptions of natural disasters, probably because of the more common and tangible nature of these events, but also because they tend to be neutral with respect to political issues. In comparison, less agreement was found in perceptions of technological hazards and nuclear attack preparedness.

The students tended to emphasize danger, destruction, loss of life, suffering, and the extreme consequences of possible disasters and wars. They showed more awareness of danger signals and demonstrated a readiness to respond with quick, immediate action. Fitting with their preoccupation with dangers, university students have also shown more concern with fear and panic and with chaos. They are interested in the causes and sources of danger and in learning about preventive measures. They expect help, which may partially explain their positive attitudes toward outside agencies and trust in their assistance. Students tended to be positive and optimistic about government agencies and officials. They think of civil defense measures in the context of the military and the government and in terms of their own personal security. In regard to emergency preparedness they placed more weight on action, training, and practice. They look upon risks more as a gamble and as a matter of personal choice, weighing losses against gains and danger against excitement.

Adults look at risks as an inescapable part of life for which one must prepare (e.g., buying life insurance). They were consistently more preoccupied with planning and preparation. This is especially true in the area of emergency preparedness, where they emphasized the need for taking protective measures and providing help and assistance. They focused on specific human needs for food, water, shelter, and medical supplies. Compared to university students, adults were more concerned with protecting people, particularly families and children, and personal property. Adults tended to be more skeptical and critical about government action and bureaucracy. They worry about the cost and usefulness of civil defense measures.

These perceptual and motivational characteristics of students and adults have many implications for the management of emergency preparedness and civil defense programs. Among these implications are their relevance to volunteering. To promote student volunteering, their sensitivity to danger, their

concern with war, and their trust in government and other civic organizations like the Red Cross and the Coast Guard are important motivating factors that can be reinforced by proper information.

A more useful motivational context to promote the volunteering of adults would be to focus on previous emergencies and natural disasters. In such a context, the adults' focus on self-help might be reinforced. The more critical and skeptical attitudes of adults toward government may be overcome through communications which emphasize the need for large-scale cooperative efforts. The order of magnitude of the threats posed by natural disasters and war-related emergencies support arguments that individual efforts at self-help have little chance to provide the desired security and protection. The adults' strong concern for the protection of people, particularly families, women, and children, as well as property provides a natural opportunity for management to appeal to the dominant motivational dispositions in relation to volunteering in support of organized efforts.

MALE AND FEMALE PERSPECTIVES

Again, there was more agreement between males and females in their perceptions of specific disasters than of less tangible issues like emergency preparedness and civil defense. Intangible issues tend to elicit greater differentiation between men and women.

In the face of both natural and man-made disasters, women showed intense concern with danger, human suffering, pain, disease, and famine. They tended to think of the tragedies, troubles and human miseries as well as the destruction and loss of life. Consistent with their focus on dangers and harmful consequences, women also placed a great deal of emphasis on safety, protection, and security. Their thoughts centered around home and people, and women thought more of receiving assistance, for example, from the Red Cross and other organizations specialized in providing help.

The women expressed ambivalence about taking risks in contrast to the men, who appear more inclined to accept risks and hazards as a natural part of life, reflecting the view that there is no success without certain risks. The women admired the bravery of those who are willing to take risks. Specifically, they were impressed by the motivation, bravery, and patriotism of civil defense staff and volunteers. Women, more than men, tended to connect civil defense with conventional military operations in the Army and other military and paramilitary organizations and to look to the government for protection. Compared to men, the women gave more affect-laden responses and expressed greater concern about the panic and confusion evoked when disaster strikes. Their responses tended to be reactive rather than preventive -- e.g., run, flee, escape, with a sense of immediacy and quickness.

The men consistently emphasized planning and preparation, education and training, actively providing help and assistance where needed. They focused on man-made problems rather than natural disasters: e.g., nuclear war, technological hazards, and chemical contamination. In connection with natural disasters and other emergencies men were interested in the particular preventive and protective measures. Compared to the women, the men tended to be much more preoccupied with knowing the specifics involved and also the technical quality of the measures.

Men tended to be more critical and skeptical in their views, particularly regarding the role of the government, although they did not assign as much importance to the government as did the women. The men expressed doubts about the effectiveness and practicality of specific civil defense measures. They were also more concerned about the expense and waste of money. A sizable group of both men and women indicated that they had never heard of FEMA or of emergency management officers.

What do these trends reveal about men and women in connection with volunteering? Males focus on providing effective help and assistance, and tend to be critical of civil defense measures and governmental administration. This focus suggests the desirability of stressing practical ways for organizing volunteers at the local level. An appealing objective would be to emphasize the manner in which individuals can interface with and complement government programs effectively. Emergency management programs that take these dispositions into account can enlist the support of men by emphasizing the order of magnitude of the threat posed by natural or nuclear disasters and the limited chances of the individual to survive unless people are organized and integrated within the framework of preparedness programs. This appeal to the common sense of men can be further reinforced by connecting with their natural concern for the protection of women, children, and families. It is of critical importance that male volunteers are assured of the optimal possible care and protection of their families.

Volunteering by women may be promoted and supported by relating to their natural dispositions to rely on and trust governmental and other large-scale organizational efforts as useful sources of help and protection, and to their expectations of being with others who are being protected. The female preoccupation with dangers, threats, and negative consequences, their stronger ambivalence, and their stronger needs for belonging and affiliation offer good opportunities to make cogent appeals to encourage volunteering among women. To strengthen these appeals, the communications and programs presented should focus on tasks and settings that naturally fit these dispositions; for example, shelter management roles and other roles associated with reception and care, shelter and lodging.

PUBLIC PERCEPTIONS AMONG PEOPLE WITH POSITIVE AND NEGATIVE ATTITUDES

Comparisons were made of perceptions by groups with positive and negative attitudes toward the following concepts: risk, FEMA, Emergency Management Officer, Nuclear Deterrence, Nuclear War Survival, Strategic Defense Initiative (SDI), Star Wars Program, Laser Beam Missile Defense, and High Tech Nuclear Defense. People with positive attitudes on selected issues tend to differ in their dominant views and perspectives from people with negative attitudes on those issues. These perspectives involve dispositions to look at issues in particular ways, ways which influence what people may choose and do.

In comparing the positive and negative attitudinal groups' perceptions of representative organizations (FEMA) and roles (Emergency Management Officers, EMOs), it was found that the positive group had confidence in their ability to perform in the event of both natural disasters and war. The negative group, which focused more on civil defense, considered this program and its personnel wasteful and useless and were particularly concerned about red tape and bureaucracy within the government. People with strong negative attitudes were

skeptical about the EMO's function and ability to provide guidance and protection. In contrast, providing guidance and protection were precisely the functions which the positive group found particularly valuable as the main functions of emergency management.

It may be that the perceptual differences observed between the positive and negative groups tie in with deeper human dispositions. For example, some people are predisposed to look at the darker alternatives of life involving dangers and threats, while others are more motivated to search for positive solutions.

On highly affect-laden and complex nuclear issues, such as deterrence and survival, the positive and the negative groups showed sharply contrasting perceptual trends and perspectives. The positive group tended to think of peace and defense, and to trust government. The negative group, on the other hand, preoccupied with the dangers of war and destruction, was found to view the government's involvement as useless and potentially harmful.

The promotion of volunteering requires different approaches when addressing people with positive attitudes toward emergency management and civil defense as compared to addressing people with predominantly negative attitudes. The positive group showed strong concern with protection and survival; they felt that preparedness and civil defense can be of help and they expected the help to come from the government. This group does not need to be convinced that preparedness is desirable. Rather they need information that can demonstrate that in reality the government's financial support to the field of emergency preparedness is low and that the success of any efforts at preparedness therefore depends on public participation and volunteering. Here it is important to elaborate on the need for various types of volunteering tasks and the important personal contributions that can be made to the nation. Relevant topics which such audience-adapted communications can best emphasize to reach males and females or adults and students are shown in the corresponding sections of the report.

In approaching groups with negative attitudes, it is important to recognize that their opposition does not stem from a lack of interest in protection and security. Rather, the negative attitudes result from their skepticism or doubts that protection and security can be achieved. This skepticism and doubt are rooted in their subjective understanding of the overall situation rather than in their knowledge or familiarity with the objective quality of specific measures. In view of their opposition primarily to civil defense it appears desirable to rely on communications which emphasize the broad concept of emergency management. In the same fashion, communications might benefit from a general shift in emphasis from deterrence to humanitarian aspects of protecting lives and property.

PERCEPTIONS IN THE EASTERN AND WESTERN UNITED STATES

The differences observed between the Eastern and Western regional groups were modest but consistent. The variations appear to be more the result of differences in situation or experience rather than differences related to deeper processes of socialization and upbringing. Since the Eastern respondents came primarily from Washington, D.C. and surrounding urban centers

on the East Coast, the findings may apply more narrowly to this population than to the Eastern United States in general.

The respondents from the East were much more aware of the federal government, attributed more importance to it, and were more critical and skeptical of its role. They complained about the bureaucracy and spoke somewhat more of dangers, fear and panic. On the positive side, the Eastern group placed more emphasis than did the Western group on planning, organization, management, and leadership.

The Western group tended to view emergency and civil defense measures more positively as sources of help and useful assistance. They expressed less skepticism, more trust and optimism. The Western group spoke more frequently of resources and supplies: food, water, medical assistance, and first-aid. In general, they also thought more about people, families, and children. They placed greater emphasis on specific disasters such as floods, tornados, or earthquakes, compared to the people in the East who included and emphasized war-related disasters.

Many of the differences between the East and West groups can be traced to a single factor: the relationship each group has with the government. This factor poses different opportunities and requirements for approaching volunteering. The East group's heavier reliance on government and their stronger mix of positive and negative feelings about the role of the government naturally have important implications for volunteering. Since the skepticism and ambivalence are intensive and deep but selective, it is desirable to provide for local initiative. It would also be helpful to articulate how local interests and decision making can be coordinated and combined with national plans and measures of emergency preparedness. To encounter the concerns expressed about bureaucratic inefficiency, it is desirable to show that local interests will be recognized and effectively pursued. Local interests can be encouraged by giving volunteers some leeway and administrative autonomy to pursue local initiatives.

In the case of the Western group with its more positive attitudes but lower familiarity with the government role, volunteering in the field of emergency preparedness and civil defense appears to be more compatible with and naturally supported by the local frame of reference. This support can be effectively reinforced by introducing clear objectives and appropriate tasks which provide the right opportunities for participation.

IMPLICATIONS OF THE FINDINGS FOR EMERGENCY MANAGEMENT

The above findings clearly show how people from different segments of our society and from different demographic backgrounds---males and females, young and old---view issues and programs relevant to civil defense and emergency management from different perspectives and with differing motivational priorities.

Differences in perceptions and motivations are not accidental but follow from the background, experiences and frames of reference of these various sub-populations. Familiarity with these background variables is certainly helpful but it is not enough in itself to anticipate relevant human dispositions. The reason is that these dispositions have a deep psychological foundation rooted

in processes of socialization and subjective representations which operate below people's awareness. The findings of this report offer new insights in these deep human dispositions, including their effects on people's support to objectives and programs of management and their participation and involvement in implementation. Their relevance to emergency management rather naturally follows from the very nature of this new information. We have used volunteering as an example to illustrate insights relevant to emergency management.

Volunteering depends a great deal on people's motivations. People do not volunteer unless they can clearly identify themselves with a particular role or cause. To promote volunteering it is important to take people's views and values into consideration. This is why efforts to promote volunteering call for the use of a differentiated approach, which takes the dominant views and values of different groups of people into careful consideration. Our research results showing the different views and attitudes of demographically different groups in regard to emergency management and civil defense not only demonstrate the need for a differentiated approach, but they also show how to take these differences into consideration.

In market research this problem is called market segmentation. The notion stems from the recognition that in order to reach a particular market, communications and marketing have to address the differential needs of various subpopulations or segments of the public. This volume contains extensive information regarding relevant subgroup characteristics and the communication opportunities each offers.

Volunteering is naturally only one of the many important areas of application where management, working in either the framework of integrated emergency preparedness, or specific concerns such as earthquakes or attack preparedness, can benefit from these new insights. The human resources to be tapped here are particularly rich, the issues at stake are high, and an active public involvement is essential.

The volunteering examples illustrate how the findings and insights gained into perceptual and motivational dispositions of various segments of the American populations can be of practical use to management sensitive to the importance of invisible but powerful human dispositions.

To support emergency management interests the present investigations explored ways to develop new and useful information by combining the depth of the perceptual/motivational assessment with the nationwide generalizations of the opinion survey approach. The strategy of combining these two main approaches resulting from these investigations relies on three main categories of findings.

The application of the distance measures shows that from the variables examined---age, sex, region, and attitudes---differing attitudes were responsible for the greatest differences in perceptual and motivational perspectives. In other words, the differences between males and females or between students and adults were more limited than the differences between people with positive attitudes and people with negative attitudes on particular issues.

Second, a more detailed analysis of the views of people with positive attitudes and people with negative attitudes on such specific issues as civil

defense or emergency preparedness revealed articulate differences in perceptions and motivations. These dominant trends of perceptions and motivations reflected intrinsic, coherent dispositions to view issues and programs from internally consistent perspectives.

Third, because of its nature this new information has a close, natural relevance to the interest of management in reaching various groups of people effectively, to assure their maximum cooperation along major management objectives as they vary from program to program. The insights go beyond the question of whether people are for or against specific programs such as emergency evacuation and show how people are differently predisposed to understand and construe such programs, what are their main expectations or anxieties, how much protection they expect, what strengths and weaknesses they attribute to these programs, and in what ways the images of such programs could be improved.

Management and psychological assessment in reaching increasingly higher levels of sophistication promote the growing realization that successful management requires taking people's psychological dispositions into consideration.

To provide the information necessary to support this advanced management task through appropriate data on human dispositions, the present investigations suggest two main developments.

First, it would be useful to make a clear distinction between the information needs which have been promoted traditionally along the interests of the democratic body politic on the one hand and the interests of management on the other. This distinction is particularly consequential with regard to the categories and uses of information on the human element. Democratic politics, interested in following public sentiments, their trends and fluctuations over time, has developed a highly sophisticated methodology of opinion survey research and representative sampling. As we said in the concluding chapter on methodology, successful emergency management does not depend so much on knowing how many people support or oppose a particular program, like emergency evacuation. It is of greater importance to find ways to reach all the people of all background and attitudes, to help them understand the programs, and to assure that they participate along a broad spectrum of alternatives ranging from volunteering their services to following instructions or responding constructively to emergency information. This requires naturally a dramatic increase in the capability of management to encourage the people to act in ways that realize critical objectives for population protection.

Beyond its heavier emphasis on human dispositions, the present study suggests practical ways to obtain the desired information. There are analytic methods which can produce the necessary perceptual and motivational insights, and by combining methods of extensive attitude research and methods of in-depth perceptual and motivational assessment it is possible to benefit from the advantages of both research strategies. The step planned for combining the results of the survey questionnaire and the AGA based perceptual/motivational assessment could not be performed due to conditions beyond our control. Nevertheless, our findings on the perceptual/motivational differences of groups with contrasting attitudes provide sufficient evidence to suggest that the use of such a combined approach is not only desirable but also feasible.

Unclassified

**Regional and Demographic Variations in Public Perceptions
Related to Emergency Preparedness**

Institute of Comparative Social and Cultural Studies, Inc.

FEMA COOPERATIVE AGREEMENT: EMW-K-1024

WORK UNIT: 4851B

109 pages
November, 1986

The purpose of this research was to assist the Federal Emergency Management Agency in understanding the frames of reference that would form the basis for engaging the interest and active participation of the American public and especially volunteers in emergency preparedness and public protection. To this end the research offers new insights into how various segments of the public perceive certain emergencies and crises. The focus of attention is on public views and motivational dispositions that influence people's participation in and support of programs in the field of emergency preparedness.

The findings in this report are based on the Associative Group Analysis (AGA) method which does not pose direct questions. Rather, people's views and belief systems are inferred from the distribution of hundreds of thousands of spontaneous free actions. New information and insights are gained on how to research various segments of the public by taking their dominant views and values into systematic consideration. The information presented here focuses not on issues like the percentage of people who approve of civil defense preparedness but rather on how civil defense preparedness is viewed by various groups.

This report demonstrates that people's perspectives vary depending on age, gender, geographic location, as well as attitudes. Groups with different demographic characteristics approach certain aspects of civil defense and emergency preparedness in quite different ways. This report suggests ways in which AGA-based insights can be used by FEMA management to encourage volunteers to work toward the multiple goals of civil defense and emergency management by emphasizing those aspects of emergency preparedness that agree with their motivations, perceptions, and predispositions. The findings of this report offer new insights in these deep human dispositions, including their effects on people's support to objectives and programs of management and their participation and involvement in implementation.

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