

Development and Testing of a Communication Card for Emergency and Disaster Preparedness for Monolingual Spanish-Speaking Individuals with Low Literacy

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Abstract

Appropriately linguistic and culturally tailored emergency and disaster preparedness educational materials are critically needed along the 1,995 mile US-Mexico border because of the low literacy of many of the monolingual Spanish-speaking residents who live in this region with a high risk for emergency incidents. The risk for emergency incidents is due to the potential for natural disasters, such as high winds with a possibility for serious health consequences. This article describes the development and testing of a linguistically and culturally tailored educational tool, a CommuniCard, designed to teach monolingual Spanish-speaking individuals with limited literacy about emergency and disaster preparedness. The results of the study are presented, in validation of the conclusion that the CommuniCard is an effective tool that can be used to teach low literacy Spanish-speaking residents about emergency and disaster preparedness. The implications for health care provider practice are discussed in relation to the study results.

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INTRODUCTION

Providing effective education about emergency and disaster preparedness is critically important for US residents, especially since the terrorist attacks of New York City in 2001.¹ However, this critical education requires linguistic and cultural adaptation of teaching materials so that national campaigns, like the America Ready Campaign, may be effective in teaching the growing number of linguistically and culturally diverse US residents. Some of the most challenging of these diverse residents are the many monolingual Spanish-speaking individuals with limited literacy (SIL) who live along the US-Mexico border.

This education is especially important along the US-Mexico border because of the following reasons:

1. Significantly larger numbers of SIL individual live along the US-Mexico border than in the rest of the nation.
2. Approximately 83% of the US-Mexico border residents are Hispanic of Mexican origin

with an approximate 35% of them self-reporting as SIL.

2. There is significant potential for emergencies and disasters due to the frequent high gale intensity winds.
3. There is great potential for emergencies and disasters due to the legal and illegal transportation of biohazardous materials across the US-Mexico border with the potential need to implement of emergency and disaster-preparedness plans.
3. There is a current paucity of linguistically and culturally appropriate materials that can be used to educate SIL individuals how to prepare for emergencies and disasters.

This project responds to the educational need of SIL individuals to prepare them for emergencies and disasters through the development of a linguistically and culturally appropriate tool.

The goal of this project was to increase the effectiveness of emergency and disaster preparedness education for SIL. The

specific aims of this project were to:

1. Develop a linguistically and culturally tailored tool (CommuniCard) that can be used to transmit the message of the US Department of Homeland Security America Ready Campaign for emergency and disaster preparedness (America Ready) to SIL individuals.¹
2. Develop an Evaluation Tool that can be used to measure the verbal reaction of SIL participants in relation to the learning objectives of the CommuniCard for emergency and disaster preparedness.
3. Test the effectiveness of the CommuniCard by using a commercially-produced video of a tornado that is available on a public medium, and the newly-developed Evaluation Tool, to score the verbal reactions of 50 SIL participants who met study inclusion criteria.

An examination of the factors that were considered as the CommuniCard was developed will provide the background for the subsequent description of the project.

BACKGROUND

Providing effective education in relation to emergency and disaster preparedness is critically important for the approximately three million monolingual Spanish-speaking individuals (SIL) with limited literacy who live in the US.² The effective education of SIL individuals hinges upon the development and availability of tools that are congruent with national emergency and disaster preparedness objectives. These tools must be linguistically and culturally tailored to the unique needs of SIL individuals. Therefore, it is essential that current national emergency and disaster preparedness and related initiatives, such as the America Ready Campaign be examined. The unique needs of SIL individuals to include, their health literacy, and linguistic and cultural characteristics must also be examined in relation to emergency and disaster preparedness.

EMERGENCY AND DISASTER PREPAREDNESS

The terrorist attacks of New York City on September 11, 2001 elevated the need for formal, comprehensive and effective emergency and disaster preparedness to a new level in the US.¹ The Homeland Security Act of 2002 responded to this need by uniting 22 government agencies to form the

US Department of Homeland Security.¹ The Department of Homeland Security's overriding and urgent mission is to lead the unified national effort to secure the country and prepare for and respond to all hazards and disasters. One of the strategic objectives of the Department is to empower US residents to be prepared, capable, and ready to respond to adverse incidents, emergencies and disasters by encouraging a national culture of preparedness and self-sufficiency.¹ The Department developed the America Ready Campaign as its key program for the education of US residents about emergency and disaster preparedness.¹

AMERICA READY CAMPAIGN

The America Ready Campaign was launched by the US Department of Homeland Security to "educate and empower Americans to take some simple steps to prepare for and respond to potential emergencies, including natural disasters and terrorist attacks".¹ The Campaign's messages have been distributed through: television, radio, print, outdoor and Internet public service advertisements (PSAs), brochures, Web sites, toll-free phone lines, and partnerships with a wide variety of public and private sector organizations. According to the 2007 Advertising Council, the Campaign has been one of the most successful public education endeavors in the last decade.¹ The Campaign's messages were made available in Spanish through its "Listo" program starting in 2004.¹

Listo is the Spanish-language version of the US Homeland Security's America Ready Campaign and it was designed to reach the approximately 37 million US Hispanic residents.¹ The Listo campaign is a national public service advertising (PSA) campaign. The PSAs are not mere translations of the English advertisements. Instead, the Spanish-language campaign uses a "Guardian Angel," a popular icon in Hispanic culture thought to defend individuals from danger, to deliver critical citizen preparedness information.¹ The Listo campaign seeks to reduce fears and empower Hispanics by providing individuals with specific actions they can take to protect themselves, their families and their communities in the wake of an attack, or other emergency situation.¹

The Listo campaign offers practical suggestions to increase preparedness: make an emergency supply kit, create a family communication plan and be informed about potential threats. The advertisements direct Hispanics to call a toll free number to access a free brochure or to visit a comprehensive website, where they can learn the best ways to protect

themselves and their families against terrorism.¹ One of the most effective and widespread of these teaching materials is the Listo version of the Preparing Makes Sense Get Ready Now tri-fold brochure.¹

The Listo Preparing Makes Sense Get Ready Now brochure aims to teach US Hispanic residents to take critical actions in order to prepare for emergencies or disasters and promote a favorable outcome. These critical actions are: 1) make an emergency plan, 2) assemble a kit of emergency supplies, 3) stay informed of developments and 4) get involved.¹ The design, graphics and text of the brochure are geared for US Hispanic residents who can read at least at the sixth-grade level.

The Listo Preparing Makes Sense Get Ready Now brochure is printed on glossy paper and has four photographs to include: 1) a young female and child with Hispanic features, 2) a dark sky filled with storming clouds, 3) a dark-skinned female hand holding an elegant pen and a telephone.¹ There are least 200 words on the brochure and future-tense verbs are used almost exclusively, such as “you will”.

Occasionally an authoritarian tone is conveyed through the use of word combinations such as “you should” or “you must”.¹ There are several things that could make the Listo Preparing Makes Sense Get Ready Now brochure, or a similar product, more congruent with some US Hispanic residents, especially SIL individuals. One way that the brochure could be more usable by SIL is by mirroring the style of tailored information cards.

TAILORED INFORMATION CARDS

Tailored information cards have been used as instructional aides with success in various industries.⁴ The CommuniCard collection is a series of tailored information cards that was developed by Acevedo and has been used to teach SIL community members about a variety of topics including work-site safety and inter-hospital navigation.⁴

CommuniCards use illustrations, instead of text, to transmit messages in a clear and effective manner.

Illustrations are the key to communication for the CommuniCard products making them faster and easier to use than English/Spanish dictionaries. Their economical costs and easy availability make them a reliable communication tool for trade-specific tasks. The illustrations convey descriptive tasks without the need to speak. Many English/Spanish dictionaries do not include regional expressions or task-specific words and phrases. Therefore,

time can be wasted and comprehension diminished while individuals struggle to find correct words and enunciate them. The CommuniCard eliminates these language barriers by using illustrations to communicate.⁴

These CommuniCards have been reported to result in observable compliance behaviors with health-promotion and personal safety messages.⁴ This indicates that the use of CommuniCards can be expanded to include the development of a linguistically and culturally-tailored information CommuniCard to facilitate the education of SIL about the US Department of Homeland Security’s America Ready Campaign for individual community member emergency and disaster preparedness. However, in order to tailor the CommuniCard to the linguistic and cultural needs of SIL individuals, the unique characteristics and metaparadigms of Hispanic culture must be integrated into the design of the CommuniCard.

METAPARADIGMS OF HISPANIC CULTURE

The metaparadigms of Hispanic culture were conceptualized by Tinto in 1987 as unique beliefs that are held by individuals who self-identify with the Hispanic culture. These beliefs are so powerful that they impact every facet of Hispanic individuals.⁵⁻⁷ These beliefs are transferred from one generation to the next and constitute the metaparadigms of Hispanic culture: collectivism, personalism, and familism.⁵⁻⁷

The metaparadigm of collectivism is the belief that the needs of the group or community supercede those of the individual.⁷ Collectivism is the cohesive force that can result in the sharing of results throughout the lifespan. This is especially the case in times of crisis, such as during disasters. This strength of the Hispanic culture that can and should be integrated into any material that is intended for the use of SIL, who may very likely possess high adherence to collectivism, with subsequent congruent behavior.

The metaparadigm of familism is a natural extension of collectivism. Familism is the belief that the family is the priority in the lives of Hispanic individuals.^{6,7} Familism extends beyond the nuclear family to include other relatives, like cousins, aunts, grandparents and in-laws.⁸ Familism is reinforced by the social structures, such as schools, churches and civic organizations. The high value that Hispanic individuals place on family needs can partially explain their unwillingness to delay gratification of their family members.⁷ This can lead to the incurrence of debt or reprioritization by

Hispanic individuals of their financial needs to accommodate the needed resources to provide pleasure for family.

The metaparadigm of personalism is the belief that a high value must be placed on close personal relationships.⁷ This can be demonstrated in the tendency of many Hispanic individuals to avoid confrontation with others.⁷ Another reflection of personalism is the need, that is often expressed by many Hispanic individuals, to agree to requests that are made by others in an effort to establish or advance a close personal relation.⁹ This indicates that personalism must be acknowledged in the development of emergency and disaster preparedness educational materials that aim to reach Hispanic individuals, especially SIL individuals in a culturally appropriate manner. In addition to the metaparadigms of Hispanic culture, the unique present-tense time orientation of Hispanic individuals needs to be addressed in the development of effective emergency and disaster preparedness of SIL individuals.

According to Purnell and Paulanka (2003) Hispanic individuals tend to focus on their present needs, instead of future needs.¹⁰ Many Hispanic individuals tend to live for the present instead of for the future.¹⁰ This presents a special challenge for educational endeavors aimed at preparing Hispanic individuals for a possible future revolving around an emergency or disaster. This is can be especially true for Hispanics, like SIL individuals who reside in a US-Mexico border city like El Paso, Texas.

EL PASO, TEXAS

The setting for this project is the Texas-Mexico border city of El Paso, Texas. El Paso has many characteristics that pose challenges in relation to the social well-being of its residents to include financial state, educational level, availability of educational opportunities and cultural factors. El Paso is the fifth largest city in Texas and the largest border city. Hispanics of Mexican descent comprised approximately 80% of El Paso's population in 2007.² This percentage is predicted to increase to 81.7% by 2017.³

Juxtaposed directly across Cd. Juarez, Mexico, El Paso forms the largest bi-national population center on any international border with over 2.4 million residents.³ In addition to its substantial civilian population, El Paso is the home for an impressive military population (66,000 troops and dependents) that has been recently transferred to Fort Bliss.² A significant number of residents (22,000) in El Paso

live in the colonias on the outskirts of the city limits.³

COLONIAS

In accordance with Texas Senate Bill 1421 of the 76th Regular Legislative Session, El Paso County is a border county because is located well within 50 miles of the Texas-Mexico border, an area where most of the state's colonias exist.¹¹ The US-Mexico Border Health Commission (2007) defines a "colonia" as a residential area along the Texas-Mexico border that may lack some of the most basic living necessities, such as potable water and sewer systems, electricity, paved roads, and safe and sanitary housing.³ The environmental conditions of colonias are often tolerated only by residents with low educational levels, to include SIL individuals who have no other housing option.

El Paso has one of the largest numbers of colonias in the US-Mexico border.¹¹ Residents of colonias have one of the lowest educational attainment levels in the state and the nation. Less than 10% have a high school diploma.¹¹ This has led to a large concentration of SIL individuals in the colonias on the outskirts of the city of El Paso. These SIL individuals can contribute valuable first-hand feedback for the development of linguistically and culturally appropriate materials that can be used to educate SIL individuals across the nation.

SAMPLE

The inclusion criteria for this study were that participants: 1) be able to speak only Spanish, 2) be older than 21 years of age, 3) be unable to read or write Spanish or English, and 4) consent to participate. The exclusion criteria were: 1) failure to meet the inclusion criteria and 2) cognitive impairment that would prevent a verbal response to the items on the instruments.

METHODOLOGY

The project consisted of the following two phases: 1) development of the CommuniCard and accompanying Evaluation Tool for the Effectiveness of the CommuniCard (Evaluation Tool) and 2) testing the effectiveness of the CommuniCard. The Institutional Review Board of a university approved the protocol for this study.

DEVELOPMENT OF THE COMMUNICARD AND THE EVALUATION TOOL

The first phase of the projected consisted of the development of the CommuniCard and the Evaluation Tool. The Principal Investigator (PI) and Co-investigator (Co-PI) distilled the

learner objectives for the CommuniCard directly from the Homeland Security's America Ready Campaign for individual community member emergency and disaster preparedness. The learner objectives focused on specific expected, observable or verbal behaviors. The learner objectives were:

1. Verbalize the need to develop an emergency plan of action.
2. Verbalize the need to gather an emergency kit.
3. Verbalize the need to seek shelter.

The learner objectives were used to develop the scenes and text that comprised the CommuniCard. The learner objectives were also used to develop the Evaluation Tool.

CommuniCard graphics. A popular Hispanic entertainment called a "fotonovela" was used to guide the development of the graphics for the scenes on the CommuniCard. Fotonovelas are a popular form of entertainment among low-literacy Hispanic individuals.^{7, 12} Fotonovelas present a story or plot by using a design that is similar to US comic strips.¹² Fotonovelas use photographs of characters or settings in a sequential manner to develop a story line. The characters' thoughts and ideas are shown in a bubble above the characters' head.

The style of fotonovelas was used in the CommuniCard with a few exceptions: 1) line drawings were used instead of photos to depict the scenes and 2) miniature line drawings were placed inside the character thought or word bubbles, instead of text. This was done to facilitate photocopying of the CommuniCard without the added cost photographic color printing and in order to meet the low literacy needs of SIL individuals.

The line drawings for the scenes on the first version of the CommuniCard were developed by a Hispanic artist who was cognizant of and acutely attentive to the physical characteristics of SIL on the US-Mexico border (see Appendix). Line drawings were used instead of color images in order to simplify the aesthetic quality, as well as reduce the cost of duplication of the CommuniCard.

The artist carefully wove the Hispanic concepts of collectivism, familiarism and personalism into the drawings to maximize the cultural congruence of the diagrams with SIL. The artist did this by maintaining the characters in close

physical proximity and portraying family scenes that even included pets in several of the scenes in the CommuniCard (see Appendix).

The researchers conferred extensively to create six scenes that would most accurately convey the America Ready Campaign priorities: make an emergency plan, assemble an emergency supply kit and stay informed. Input was also solicited from the Hispanic artist, who was instructed to draw six scenes. The six scenes that the Hispanic artist drew were the following:

1. Scene of a couple listening to a radio announcement of an eminent tornado warning.
2. Scene of a woman and child viewing a television announcement of an eminent tornado warning.
3. Scene of the couple and a dog seeking shelter inside a home to protect themselves from the tornado.
4. Scene of the woman and child calling another couple over the telephone to alert them about the tornado warning and to arrange for a safe meeting place.
5. Scene of the woman and child assembling an emergency kit.
6. Scene of automobiles following an evacuation route, while tuning into a radio for updates about the tornado's path.

No words appeared in the bubbles above any of the characters' heads. No color was used in any of the scenes. The only text that appeared was below the drawings of the scenes.

CommuniCard Text. The text was minimized to meet the needs of the target audience. The minimal English text that was selected for the first version of the CommuniCard was written at approximately the third-grade level. The text was translated into Spanish by a certified translator. The text was placed below each of the corresponding scenes in small font to maximize the visual effect of the diagrams. The text consisted of the following phrases:

1. Tornado warning.
2. Alert family and friends.

3. Seek shelter.
4. Make arrangements to meet with family and friends
5. Pack emergency supplies.
6. Follow evacuation route.

The text is congruent with the characteristics of Hispanics, especially SIL individuals. The Hispanic culture metaparadigm of familism is clearly reflected in the text, as evidenced by the fact that the word “family” appears in two of the six phrases. Furthermore, all the verbs in the phrases are in the present tense, instead of in the future tense. The use of present tense verbs is congruent with the present-time orientation of Hispanic individuals that has been noted to be an important cultural characteristics by Purnell and Paulanka (2003).¹⁰ The researchers used a focus group of SIL individuals to gather feedback in relation to the initial version of the CommuniCard.

Focus group refinement of the CommuniCard. The first version of the CommuniCard, that had six scenes and minimal text, was reviewed by a focus group consisting of five SIL who consented to participate. The focus group was used to obtain feedback regarding the: 1) message conveyed by the scenes and text on the CommuniCard, 2) aesthetic appearance and emotions that the scenes and text on the CommuniCard elicited in them, 3) a projection of what the purpose of the CommuniCard was in relation to their own lives.

The focus group overwhelmingly indicated that the scenes clearly showed what actions families need to take in case of a tornado. All the group members expressed approval of the two scenes that indicated the need to alert family and friends. Two of the five members of the focus group requested to know what items constituted emergency supplies. Three of the five focus group members expressed a need to know what the end of the story or fotonovela was, since the final or sixth scene depicted families following an evacuation route.

The CommuniCard was refined in relation to the feedback that was obtained from the focus group. Two more scenes were added to the CommuniCard in response to the feedback from the focus group. The scenes that were added depicted the following events: 1) a family connecting with family and friends at a safe gathering place and 2) a family returning

home to their family and friends who had safely weathered the tornado. The corresponding phrases for the two final scenes on the CommuniCard were the following:

1. Connect with family and friends.
2. Return home to family and friends.

This added text further infused familism into the CommuniCard by doubling the number of times of the use of the word “family” appears in the phrases below the scenes. The final CommuniCard contains the word “family” a total of four times. A total of thirty-two words in response to the feedback from the focus group.

Development of the EvaluationTool. The researchers developed an Evaluation Tool that used the expected behaviors to determine a success score for each participant. The Evaluation Tool was purposefully kept concise and as clear as possible to reduce the possibility of rater ambivalence. The Evaluation Tool was:

1. Based on the America Ready Campaign for individual community members.
2. Reflected the learner objectives.
3. Consisted of expected psychomotor behaviors.
4. Used the expected participant verbal answers to yield a quantitative respondent success score.

The Evaluation Tool consisted of four possible behaviors that could be expected from the participants in response to the video. The possible participant behaviors that were anticipated in relation to the video and in response to the RA’s question, “What would you do now to prepare for the tornado?” were the following:

1. “I don’t know what to do”.
2. “I have to do something”.
3. “Stated one of the three actions identified on the “Listo Preparing Makes Sense Get Ready Now” brochure (develop an emergency plan of action, gather an emergency kit, stay informed).

The researchers selected a commercially-produced video of a tornado, that was available on a public medium, to test the effectiveness of the CommuniCard. The Evaluation Tool

was used to score the participant's responses in relation to the video. The video was selected to elicit the pre-determined expected learner behaviors from the respondents.

TESTING THE COMMUNICARD

The researchers used a pre and post test design to evaluate the effectiveness of the tailored CommuniCard with a sample of participants who met inclusion criteria. A commercially-produced and publicly-available video of a tornado and the newly-developed Evaluation Tool were used in the pre and post test.

INSTRUMENTS

A Demographic Profile questionnaire was developed by the Principal Investigator (PI) to collect demographic data from the participants. The following demographic data was obtained: age, gender, marital status, ethnicity, number of years of education, income, occupation, health insurance access and previous training about emergency or disaster preparedness.

PROCEDURE FOR DATA COLLECTION

A convenience sample of 50 participants, who met the inclusion criteria, was recruited from a community healthcare center through the use of fliers. A bilingual Research Assistant (RA) read the informed consent form to and the Demographic Profile to each of the potential participants in Spanish. The RA recorded the responses on paper forms. It took approximately 15 minutes to review the consent form with each participant and 30 to 35 additional minutes to complete the Demographic Profile questionnaire.

After obtaining consent and the demographic data, the bilingual RA asked each consenting participant to do the following:

1. View the selected commercially-produced, publicly-available four-minute video depicting a tornado.
2. Respond to the question: "What would you do now to prepare for the tornado in the video"?
3. Record the participant's response on the paper Evaluation Tool (see Appendix). Review the CommuniCard for a minimal amount of two minutes and no more than 10 minutes.
4. Repeat the viewing of the same four-minute video that was viewed previously, depicting a tornado.
5. Respond to the question: "What would you do now to prepare for the tornado in the video"?
6. Acknowledge receipt of \$10.00 for having participated in the study.

The RA scored each of the Evaluation Tools for each of the participants. The maximal correct score was obtained for each of the participants. All the data was collected in a three week period.

STATISTICAL ANALYSIS

The data was analyzed using SPSS for Windows version 14.0 software to create an aggregate descriptive profile of the participants. The scores on the Pre test and Post test Evaluation Tools were analyzed to calculate measures of central tendency.

RESULTS

The results of the Demographic Profile were consistent with residents of El Paso County. The participants were primarily (58%) female, had a mean age of 51 years, and a mean annual income of \$15,000/household. Ninety-percent of the participants had less than three years of formal education. An alarming eight-two percent of the participants did not have health insurance. Only one of the fifty participants reported having had previous formal emergency and disaster training of any kind.

The pre and post test results clearly indicated that the CommuniCard is effective in conveying the three points of action on the America Ready Campaign. The range of the Pre test Evaluation Tool score was 0 to 100 points out of a possible score of 100 points with a mean of 25 points. The range of the Post test Evaluation Tool score was 25 to 100 points with a mean of 75 correct points. This reflects a dramatic gain of 50 points from the mean Evaluation Tool pretest score to the mean Evaluation Tool posttest score. The inter-rater reliability was enhanced by the use of only one RA to collect the data. Furthermore, the RA used a detailed protocol to collect the data. The RA used paper Evaluation Tools to record the response of each participant. The RA also carefully recorded any comments that were made by each participant, in addition to those specifically elicited by the items on the Evaluation Tool.

OTHER FINDINGS

The qualitative data, consisting of participant comments, indicates the cultural congruence of the CommuniCard with

the Hispanic cultural metaparadigms of collectivism, familism and personalism of the SIL project participants. Several of the participants reflected collectivism in their suggestions that the entire community of El Paso needs to be taught how to prepare for potential emergencies and disasters. Some participants recounted situations where they faced disasters and were unable to respond effectively because of a lack of educated community members.

Familism was reflected in the many comments that participants made in relation to how they planned to learn more about emergency and disaster preparedness so that they could protect their families. Three of the participants requested an opportunity to bring family members to the community health center so that they could also be exposed to the CommuniCard and accompanying video.

The RA reported that the vast majority of the participants expressed strong personalism in their requests for a return visit to talk to the RA more about emergency and disaster preparedness. Several participants indicated that the video of the tornado made the emergency and disaster preparedness more personal for them because it allowed them to tell the RA stories about past experiences when they had faced emergencies or disasters.

The video of a tornado helped the project participants helped transport their present-tense time orientation, of sitting in the RA's study room, to an eminent disaster situation. This increased the participants' attention level and elicited their willingness to learn about emergency and disaster preparedness.

An unanticipated finding was the strong religiousness that was demonstrated by the overwhelming majority (75%) of the participants through verbal and non verbal behavior. These behaviors were exhibited by the participants as they viewed the tornado video. The verbal expressions included invocations of God or Catholic saints, especially the Mexican Catholic icon of the Virgin of Guadalupe. This indicates that the participants self-identified with the Catholic religion. Some of the specific comments that were expressed included the following:

1. "May God prevent this from happening".
2. "May my blessed mother Virgencita de Guadalupe protect me".
3. "We are in God's hands".

4. "Saint Jude help us all".
5. "I will burn a candle to Virgen de Guadalupe so that we stay safe".

Many of the religious comments that were made were accompanied by non verbal behaviors that were noted by the RA.

The RA reported that twenty of the fifty (40%) participants crossed themselves at least once while viewing the tornado video. Almost an equal number, eighteen of the fifty (18%) participants almost instinctively reached for a religious piece of jewelry that they were wearing, such as a pendant or bracelet, as they watched the video. One of the participants asked the RA to please pause the video so she could retrieve her rosary from her purse. Among the religious comments that were recorded by the RA, there were some comments that reflected a degree of fatalism.

Fatalism is the belief that inevitable outcomes, very likely negative, are predestined by uncontrollable forces that are superior to humans.^{13,14} Fatalism has been observed in Hispanics, especially in lower socioeconomic and educational levels of society.¹⁵⁻¹⁷ Some researchers have associated fatalism in Hispanics with poor preventive health and disease screening practices.^{16,18} These researchers have suggested that perhaps fatalism is responsible for the attitude of some Hispanics that may be expressed as the following question: "Why should I try to prevent a disease that I am already destined to come down with?".^{16,18} The RA reported that some of the participants made comments during the interviews that reflected a similar fatalistic attitude.

Some of most salient and fatalistic comments that were made by fifteen of the fifty (30%) participants were:

1. "If God wants a tornado to hit El Paso, there is nothing we can do".
2. "God knows what He is doing".
3. "Only God knows when my time to die has come".

These comments clearly reflect a need to acknowledge the possibility that fatalism must be acknowledged during any sessions that aim to effectively teach similar SIL individuals how to prepare for emergencies and disaster.

DISCUSSION

This study supports the use of the Disaster and Emergency Preparedness CommuniCard for monolingual Spanish-speaking individuals with limited literacy as a moderately-effective, feasibly administered instrument in a major Texas-Mexico border city. In response this, the CommuniCard was duplicated and 500 copies were distributed in 60 small group sessions that were facilitated by community health workers in the colonias of El Paso, Texas.

The sessions were guided by the learning objectives of the Listo America Ready Campaign. The video of the tornado was used to set the tone for the presentations. The community health workers reviewed the CommuniCard with the participants after the video. Finally, the community health workers asked the participants to verbalize the three actions of the Listo America Ready Campaign. An additional 1500 copies of the CommuniCard were distributed door-to-door in the colonias of El Paso.

The comments of the participant who tested the CommuniCard revealed rich qualitative information that needs to be investigated in future investigations. Some of the most salient comments and questions that the participants offered included the following:

1. What happened to the CommuniCard family's home?
2. Something like the tornado happened here last year and no one knew what to do.
3. We need to learn more about this.
4. I am going to learn how to read so I can learn more about this.
5. What materials should I place into an emergency kit?

The participant comments and questions suggest that there are several community needs. Some of the needs are:

1. A need for participants to achieve closure in relation to successful emergency and disaster preparedness education.
2. A need to develop a plan to refer participants to reading classes or further emergency and disaster preparedness training, when they express a desire to engage in this type of education.

IMPLICATIONS FOR PRACTICE

The CommuniCard offers an option for the dissemination of information in a linguistically and culturally competent manner among SIL with moderately effective results. The Disaster and Emergency Preparedness CommuniCard could be the instrument of choice to educate this particularly vulnerable segment of the population.

Researchers investigating health literacy among Hispanics could benefit extensively from the consistent and widespread use of the unique graphic design of the CommuniCard because of the preliminary indications that it appeals to SIL individuals. Future research could extend the usability of the CommuniCard by testing its effective and psychometric properties among other Hispanic ethnic groups to produce a valuable Hispanic cross-cultural format. The CommuniCard has the potential to become the model of choice for use by clinicians who work with Hispanic clients, who have limited literacy in either Spanish or English, to convey important information in a linguistically and culturally appropriate and memorable format.

APPENDIX

Figure 1



Figure 2



Evaluation Tool for the Effectiveness of the CommuniCard

Research Assistant please circle one of the observed responses below and write comments

Figure 3

Response	Pretest Score	Posttest Score	Comments
Stated: "I don't know what to do"	0	0	
Stated: "I have to do something"	25	25	
Stated one of the three actions identified on the America Ready Campaign: 1. Develop an emergency plan of action. 2. Gather an emergency kit. 3. Stay informed.	50	50	
Stated two actions on the America Ready Campaign.	75	75	
Stated all of the three actions on the America Ready Campaign.	100	100	
TOTAL SCORE			

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