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Knowledge and Behaviors of Parents in Planning for and Dealing with Emergencies

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Abstract In recent years, a number of large-scale disasters have occurred both locally and internationally, heightening our awareness of potential dangers. If a disaster were to occur at a school, there is the potential for a large number of children to be injured or affected in some way. The school community includes not only the staff and students who are on campus each day, but also students' parents and the surrounding neighborhood. How parents react during emergencies and disasters at schools is likely associated with their knowledge and perceptions of emergencies and disasters. Parents' preparedness levels and their planned response to a school-based emergency and how schools plan and manage for these reactions have not been explored. Utilizing a mixed methods design that included surveys, semi-structured interviews and focus groups with members of the communities in two South Los Angeles school districts, this study aims to provide an overview of parents' levels of emergency and disaster preparedness and the challenges they face in preparing for these events. Additionally, parents' planned responses to a school-based emergency or disaster are discussed as well as the challenges that schools may face as a result. Data from this study confirm that there are a number of challenges related to parents' planned response to a school-based emergency, including an expected inundation of parents to the schools, lack of communication between schools and parents and language barriers. Recommendations for schools are provided to take advantage of parent populations to better integrate them into schools' emergency planning processes.

Keywords Emergency · Disaster · Schools · Parents · Emergent behavior

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Introduction

In the past decade, schools have been identified as a location where disasters and emergencies may occur; although rare, large-scale disasters or catastrophes have struck our school communities. On September 11, 2001, a number of schools were within blocks of the collapsed World Trade Towers and schools across the country were indirectly affected by parents, who fearful of what other events could follow, arrived in large numbers at schools to take their children home [1]. In 2004, terrorists overtook an elementary school in Beslan, Russia, and killed over 300 staff and students [2]. Recently, a tornado ripped through Alabama tragically killing eight high school students [3].

Children spend the majority of their waking hours in schools; therefore if a large-scale disaster were to strike a school, there is the potential for a large number of children to be injured or affected in some way. The school community includes not only the staff and students who are on

campus each day, but also students' parents and the surrounding neighborhood. Therefore, an emergency or disaster that occurs on the school campus potentially has widespread effects, both direct and indirect, on a relatively large population. For instance, in the event of an emergency or disaster, school staff must handle not only the immediate disaster, but also arrange to reunite children with their parents or other family members in an efficient and safe manner [4]. This process may be challenging, depending upon parents' reactions. How parents react during these types of events is likely associated with their knowledge and perceptions of emergencies and disasters. Parents' preparedness levels and their planned response to a school-based emergency and how schools plan and manage for these reactions have not been rigorously explored.

Being Prepared for an Emergency or Disaster

In spite of recent attention paid to national and international disasters such as 9/11, Hurricane Katrina and the Asian tsunami, data indicate that U.S. families are not prepared for an emergency or disaster. A 2006 national survey of U.S. households indicates that less than a third (31%) have basic family emergency plans (which includes a two-day supply of food and water, flashlight, radio, batteries, emergency phone numbers and meeting place) and that two-thirds (66%) feel generally unprepared [5]. This lack of preparedness is not limited to the general public, as public health employees have also reported low levels of at-home preparedness in a recent survey where 75% of respondents attending an emergency preparedness training reported being "minimally" or "not prepared" [6].

Research indicates there are a number of barriers to being prepared for an emergency or disaster. Studies have shown that cultural and linguistic differences can impede individuals from being prepared for, responding to, and recovering from a disaster [7–9]. For example, in a study identifying sources of information for hurricane preparedness among Latinos, Peguero found that Spanish-speaking Latinos were more likely to depend on friends and family as sources of disaster mitigation information as opposed to information disseminated from local and national governing bodies [10]. This reliance on "unofficial" information may increase an individual's vulnerability in disasters, as information based on personal experiences may be incorrect or valid only in a specific context or situation [11, 12]. Other studies have described the challenges low income families may have in gathering sufficient supplies to survive independently after a large-scale disaster [13]. In addition, research has shown that how an individual perceives his or her own risk for an emergency or disaster is

related to levels of preparedness. As such, those who believe that their personal risk is greater for a disaster are more likely to engage in preparedness activities, as are those who have experienced emotional injury in a prior disaster [14, 15].

Emergent Behavior after an Emergency or Disaster

Emergent behavior after a community disaster has been defined as: "private citizens who work together in pursuit of collective goals relevant to actual or potential disasters but whose organization has not yet become institutionalized" [16].

In the event of a school-based emergency or disaster, parents arriving at the school en masse to collect their children and offer to help out, would likely be considered a part of this emergent behavior. Research describing the emergent organizations that occur in the aftermath of an emergency or disaster has described the potential benefits to a quicker or more effective response as well as the challenges that emerge as a result of these phenomena [16, 17]. For example, an influx of people arriving at an emergency scene can create congestion problems for rescue workers and a surplus of volunteers may overwhelm those who are coordinating the response activities [18, 19].

This study aims to provide an overview of parents' levels of emergency and disaster preparedness and the challenges they face in preparing for these events. Additionally, parents' planned response to a school-based emergency or disaster are discussed as well as the challenges that schools may face as a result of their response. Data for this study were gathered from parents and staff members from two south Los Angeles school districts. The local population in the cities encompassing both districts is predominantly Latino (68%), followed by African American (28%) and other ethnic groups (4%) [20]. Using a mixed methods multilevel design, multiple sources and methods (e.g., staff surveys, one-on-one interviews, and focus groups) were combined to gather information from three levels: the school, staff, and parent levels. Findings from these three levels were integrated to inform one overall interpretation. The research received approval from the Institutional Review Board of Childrens Hospital Los Angeles.

Methods

Quantitative Methods: Surveys with School Staff

With funding from the U.S. Department of Education, the Los Angeles County Office of Education (LACOE) led a

collaborative project from 2003 to 2005 with the University of California at Los Angeles and Childrens Hospital Los Angeles/University of Southern California Keck School of Medicine to improve emergency responses and crisis management in three school districts in South Los Angeles. A survey was conducted to describe staff perceptions and experiences of emergencies in March 2004. For this analysis, we extracted data from the two school districts enrolled in our study from the larger dataset.

Details about the administration of this survey are provided elsewhere [21]. Briefly, questionnaires were administered to 83 public elementary, middle and high schools in the three school districts. Three respondents from each school site (i.e., one administrative, one certificated, and one classified employee) were asked to complete a questionnaire. Principals distributed questionnaires, at his/her discretion, to one administrative, one certificated, and one classified staff member. Questionnaires were sealed in confidential envelopes, collected by the district coordinators and returned to LACOE.

A total of 158 school site personnel participated in the survey with 70% from District A ($n = 111$) and about 30% from District B ($n = 47$) (Table 1). Overall, almost 2/3 of the sample was staff from elementary school sites. A variety of school personnel participated in the survey, but most respondents were either site administrators (32%), teachers (28% in District A, 21% in District B), or secretaries/office clerks (20% in District A, 21% in District B). On average, respondents had worked at their school sites for about 6 years (range 1–20 years).

Table 1 Characteristics of survey respondents ($n = 158$)

	District A $n = 111$ (70.3)	District B $n = 47$ (29.8)
School site		
Elementary	71 (64.0)	29 (61.7)
Middle	24 (21.6)	3 (6.4)
High school	16 (14.4)	15 (31.9)
Position		
Administrator	35 (31.5)	15 (31.9)
Counselor	6 (5.4)	4 (8.5)
Custodian	4 (3.6)	–
Nurse	3 (2.7)	–
Secretary/Office clerk	22 (19.8)	10 (21.3)
Security personnel	4 (3.6)	2 (4.3)
Teacher	31 (27.9)	10 (21.3)
Other	6 (5.4)	6 (12.8)
Years of service		
Mean (range)	5.5 (1–20)	6.3 (1–20)

Survey Measures Extracted for this Study

Respondent Characteristics

Each respondent was asked to describe the type of school (i.e., elementary, middle, high school, other: alternative, continuation high school), staff position, and tenure.

Parental Involvement

Subjects were asked if parents of students ever participated in the following types of emergency preparedness activities: serve on an advisory committee for preparedness activities, donate supplies/equipment, help develop school emergency plan, raise funds for equipment and supplies, participate in emergency preparedness training, and supervise during emergencies/disasters.

Qualitative Methods

Qualitative methods used for this analysis included interviews and focus groups with school staff and parents from selected schools. All interviews and focus groups were conducted from May 2006 through March 2007. Three schools, each representing a different age/grade level (i.e., elementary, middle, high) were randomly chosen from each district to participate in the qualitative methods. Letters of introduction were sent to each selected school and meetings were held with the administrators and/or his or her designee. All schools approached agreed to participate in the research study. The administrator or designee nominated staff members for interviews and focus groups. Parents were recruited through the school's community liaison or parent center.

Focus Groups

A total of 12 focus groups with staff and parents were conducted with 99 participants (Table 2). Focus groups were organized with assistance from school staff and generally included 6–12 participants. The focus groups were designed to generate discussion about what types of events or situations participants would categorize as emergencies or disasters, the perceived likelihood of different types of emergencies and disasters occurring, how individuals prepare for emergencies/disasters, training participants may have received, concerns about the school community's reaction to an emergency/disaster, and what resources are available to individuals in the larger

community. Focus groups were conducted in English and Spanish depending on participants' needs and lasted approximately 1 h. All focus groups were conducted at the school site, were digitally recorded and professionally transcribed. Respondents were provided a monetary incentive for participating in the focus group (e.g., $25 for parents, $20 for staff and $15 for students). In addition, each school received an incentive of $250 for each focus group organized (up to $750).

Interviews

A total of 33 interviews were completed with 24 staff (e.g., administrators, health professionals, counselors, security officers) and 9 parents (Table 2). The interview discussion guides were designed to gather in-depth information on a variety of constructs such as: perceptions of emergencies and disasters; how respondents prepare for emergencies/disasters and what preparedness means to them; how respondents would respond to a hypothetical large-scale disaster; what would be needed to recover from a large scale disaster; community resources available in case of an emergency or disaster; and what is needed to better prepare individuals and schools for emergencies and disasters. Specific to this current study, responses from several sets of questions related to concerns and challenges for parents and students, hypothetical response to emergencies and disasters and perceived parental roles and responsibilities were included for analysis. Interviews were conducted in English and Spanish depending on participants' needs and lasted approximately one to 1½ h. All interviews were conducted at the school site, were digitally recorded and professionally transcribed. Respondents were provided $40 for completing an interview.

Table 2 Distribution of qualitative respondents ($n = 132$)

	District A		District B	
	Staff ($n = 35$)	Parent ($n = 32$)	Staff ($n = 34$)	Parent ($n = 31$)
Elementary school				
Key informant interview	4	2	5	2
Focus group	6	7	7	9
Middle school				
Key informant interview	4	3	4	0
Focus group	7	11	8	8
High school				
Key informant interview	4	2	3	0
Focus group	10	7	7	12

Quantitative Analysis

Data were imported into STATA for analysis. Descriptive statistics, including frequencies, percents, means and chi-square and Fisher exact tests of association, were calculated accordingly for continuous and categorical variables. Data were also stratified and compared for differences across district and school type.

Qualitative Analysis

The qualitative analysis for this study was based on grounded theory, which entails the simultaneous process of data collection, analysis and theory construction [22, 23]. As the data are collected, they are immediately analyzed for patterns and themes, with the primary objective of discovering theory that is implicit in the data. Atlas.ti, a software developed for qualitative data analysis, was used for the coding and analysis of relationships between and within text segments.

Members of the research team reviewed an initial sample of interviews to identify key themes, which formed the basis of the project codebook. Transcripts were reviewed, coded, and analyzed in their original language (e.g., Spanish or English) by bilingual members of the research team. Codes focusing on a range of topics were identified and defined based on the key constructs included in the discussion guides. The codebook was modified as needed. Once finalized, three members of the research team were responsible for coding the interviews. Inter-coder reliability was assessed through double coding a sample of approximately 15% of the interviews. Differences in coding were discussed and resolved by the team. After the initial coding phase, the open coding process began, allowing for constructs of interest to be identified and labeled. For this study, codes related to concerns of parents and students, levels of preparedness, training, parent role and responsibilities and response plans were included in the analysis. This open coding process included refining the codes based on the initial analysis. During this phase, meanings of preparedness, training and other sources of knowledge, parental response to school emergencies, challenges related to communication, and potential parent roles emerged as the most commonly described themes related to parent knowledge and perceptions of emergencies and disasters.

This paper seeks to describe some of the challenges in dealing with parental reactions to emergencies and disasters and how parents may be better integrated into the school emergency plans. In order to contextualize parents' reactions to emergencies or disasters at the schools, it is important to first understand how they prepare for these

events and what being prepared means to them. Therefore, we first present data related to how parents prepare for these events, information and training provided to them and challenges they face in these areas. A discussion on parental response to school-based emergencies follows, and thoughts related to parental roles and responsibilities conclude this section. All quotes included in this paper are presented in English. When quotes were chosen from Spanish transcripts, each quote was translated from Spanish into English and then back translated to Spanish to increase accuracy.

Results

Preparedness: What Does it Mean?

In general, parents did not typically feel well prepared for emergencies or disasters in their communities. When speaking of what being prepared for a natural disaster (most commonly an earthquake) meant, parents most often mentioned having supplies on hand such as water, canned food, first aid/medications, flashlights, batteries, cash and important documentation (e.g., passports, home insurance). While a small proportion of parents seemed very well prepared, describing their evacuation plans and assigned meeting places for family members and alternate contact persons, most parents reported having nothing more than water and some food. Many also mentioned that these provisions were not necessarily earmarked for emergency use only. In some cases, parents mentioned that they may have water on hand, but may drink it rather than allocating it for emergency purposes.

While parents seemed somewhat aware of the recommended supplies for an earthquake, most did not have access to them. Many parents reported that this was something that they knew they should do, but they never had a chance to get it done, characterized by one elementary school parent, "No, I cannot say that I am well prepared, no. Because you are always saying 'I am going to do this, I am going to do that', but you are still not well prepared for an emergency." For some parents, buying these types of supplies and keeping them on hand could be expensive and that they did not necessarily have the funds to do so. Some suggested that this be something the government could assist communities with—a program similar to food stamps that would allow individuals to obtain the necessary supplies.

While listing supplies was by far the most common way of thinking about preparedness, some parents mentioned that they also needed education and information on what to do. Parents' most frequent response about what to do in the event of an earthquake was to hide under a table or in the doorway. Some mentioned that while they knew this was the recommended response, their instinct was to run outside the house. Apart from the initial response, parents described being essentially uninformed of emergency procedures, and most reported that this was not something they felt they could teach their children. This lack of knowledge was an area of concern for some parents who feared something could happen to their family or other loved ones.

> Many of us don't know what programs exist or what we should do in case of [an emergency]. Many people don't know, many people, and that is what worries us, that the moment will arrive when, if we don't know, we are going to feel bad when something happens—when one of us dies.

Parents reported teaching their children about basic safety issues (e.g., avoid strangers, come straight home) but rarely spoke of teaching them protocols in case of an emergency or disaster. Indeed, some parents reported that they learned about these issues secondhand, most commonly from their children and what was presented to them at school. Parents in general, seemed to believe that schools were better equipped than parents to handle emergencies and to teach their children about what to do during an emergency. Parents from a focus group at Middle School B reported that the school's job was to educate the students on these issues, but that they should not necessarily stop with the students.

> R1: As one of the first teachers for our children, the school has to continually remind them of what to do in case of an earthquake or fire.
> R2: The school teaches them but also, they should also require us to prepare ourselves at home too.
> R1: Sure.
> R2: Because there are many parents that tell their kids—'oh they will teach you that at school'...but we don't pay attention so we aren't prepared. The school should keep insisting, 'hey, you told your father, you told your mother'...until we are really interested in the well-being of our kids.

While parents had concrete ideas on what was needed to deal with an earthquake, most felt that there was nothing that could be done to prepare for violence in their communities. Many parents spoke of the prevalence of violence in their communities. It was not uncommon for parents to report gunshots or gang activity as occurring on a regular basis in their area. Parents felt there were no supplies or real plans that they could create that would help them and their children in times of a violent emergency. Focus group participants from Middle School A reported rather bluntly, "No one knows when that [violent incident] is going to happen. So no one is prepared for that. I think that for that, they have not prepared us."

Parental Involvement in Emergency Preparedness at Schools

Results from the quantitative survey, as seen in Table 3, revealed that more than half of elementary, 74% of middle and 70% of high school staff indicated that parents are part of a school site advisory committee that deals with emergency preparedness planning and activities. Across all school levels, about half of the surveyed staff reported that parents specifically assist in the development of school site safety plans, and 20% state that their parents participate in emergency preparedness training sponsored or held by the schools. However, significantly more elementary school parents reportedly donate (34%) or fundraise (24%) for emergency equipment/supplies compared with middle (donate: 22%, fundraise: 9%) and high school parents (donate: 0%, fundraise: 0%). Furthermore, substantially more parents from elementary sites (26%) than from middle schools (9%) and high schools (4%) have supervisory roles during actual emergencies and disasters. Sixteen percent of elementary, 26% of middle and 21% of high school staff reported that parents of their students are not involved in any emergency preparedness activities at their school sites.

Available Training for Preparing for Emergencies and Disasters

Similar to findings from the school surveys, most parents reported that they had not received or attended any trainings related to emergency preparedness. A few parents reported that they had attended first aid training in the recent past and others reported that they had been promised first aid by the new administrator but it had not yet been offered to them. Parents stated that workshops or meetings on general safety issues such as vandalism and child safety were offered, but they were not aware of other trainings. Most reported learning about the necessary supplies for an emergency or disaster from news reports. This lack of formal training led some parents to believe that they were not at all prepared to deal with a potential emergency or disaster.

R1: The truth is I am not informed.
R: Me either.
R1: I know that you can go to the Red Cross, right?
R: Here in the city, I don't know.
R2: The community does not provide services in case of an emergency.
R: We don't have anything.
R2: We know that we have to call 911 in case of an emergency.
R4: Aha, that is the only thing that they have told us.

While formal classes or workshops were lacking, parents reported that flyers describing emergency information and plans were likely sent home with students. Some had not seen these flyers and reported that in general, this was not an effective means of communicating this type of information to parents, as students often threw the flyers away or failed to give them to their parents.

Parents reported wanting to know more about these issues, and mentioned that classes should be offered to them on a regular basis. They were most interested in learning about where they could go for help in the event of a large-scale earthquake and how they can better prepare

Table 3 Parent participation in emergency preparedness activities at school ($n = 158$)

	Elementary ($n = 86$) n (%)	Middle ($n = 23$) n (%)	High school ($n = 24$) n (%)	Total ($n = 133$) n (%)
Parents not involved	14 (16.3)	6 (26.1)	5 (20.8) $\chi^2 = 1.2232, P = 0.542$	25 (18.8)
Part of advisory committee	47 (54.7)	17 (73.9)	16 (66.7) $\chi^2 = 3.327, P = 0.189$	80 (60.2)
Donate equipment/supplies	29 (33.7)	5 (21.7)	0 (0) $\chi^2 = 11.426, P = 0.003$	34 (25.6)
Assists in development of school safety plan	48 (55.8)	13 (56.5)	11 (45.8) $\chi^2 = 0.8166, P = 0.665$	72 (54.1)
Fundraising for equipment/supplies	21 (24.4)	2 (8.7)	0 (0) Fisher's exact = .005	23 (17.3)
Participates in emergency preparedness training	18 (20.9)	5 (21.7)	4 (16.7) Fisher's exact = .904	27 (20.3)
Supervision during emergencies/disasters	23 (26.7)	2 (8.7)	1 (4.2) Fisher's exact = 0.018	26 (19.6)

themselves and their families for emergencies and disasters. Again, parents tended to report depending on the school for providing training and information to their children, and often hoped that this would trickle down to them. "We talk very little about that. It's better here in the school, they teach the kids what to do...for an emergency like an earthquake at least, but for other types of emergencies, I don't know."

In contrast, some staff believed that additional education from parents would assist students in learning how to react in the event of an emergency. Staff mentioned that their efforts at educating students were somewhat limited to school drills and little else. Some believed that additional education should be provided in the home: "a lot of it is parent knowledge that will affect how a kid will react."

Parents reported that the schools were supposed to drill students on what to do in case of an emergency and they believed that this was helpful. However, some parents reported that while elementary schools seemed to be more involved in emergency drills, they were not aware if this emphasis on emergency preparedness continued into the high schools.

> I know when my kid was in elementary, they had them pick up an evacuation kit with like a couple of bottled waters, some non-perishable food items, different little things, a small blanket, a flashlight and like a little gym sack...they did a couple drills on that, and I know this is a high school, and I know it's a little bit different, but this is how they did it.

Parents reported that if they felt that the schools were preparing their children well for these types of events, they would be more assured and perhaps less likely to panic.

Parents' Response to an Emergency

In the event of an emergency or disaster at the school, by far the most common concern among staff members with regards to parental response was the fear that parents would descend upon the school trying to pick up their children. Prior experiences informed some of these perceptions, with staff describing past incidents where parents arrived at the school and "block[ed] the exits" and were "pushing, cussing, going on." Staff reported that this influx of parents would create additional confusion among staff members, as parents arrived and became more and more insistent about picking up their children.

> My biggest concern is with the parents. They want to know that their child is safe. And my biggest concern is that bombarding the school, trying to get a hold of their child ... I can't just send [the student] with an

uncle who's not on the emergency card to come to pick up the child from school. It's just not allowable...their main concern is their child and my main concern is to make sure that they get their child but that they follow the procedures.

One elementary school administrator reported that her biggest fear was that some parents would succeed in pulling their children from the school without authorization and that those children would be unaccounted on their rosters and "it might take two more weeks to find out that we didn't lose them, they were just across the street already."

Parent respondents confirmed staff members' concerns about this issue, with most parents noting that their initial reaction upon hearing about an emergency at the school would be to go there to check on their child. Some parents reported that their biggest concern during an emergency would be not having the whole family together; and this concern was likely the impetus for the instinctual idea of going to the school. Several mentioned that they hoped an older sibling or other family member would be able to go to the school and pick up their younger children. In these cases, parents did not seem aware that minor older siblings would not be able to leave their own schools and that any relative would have to be listed on the emergency contact card. Some parents realized that in the case of a lockdown or code yellow on campus (enacted when a violent incident occurs on or near the school campus), they would not be able to enter the school grounds since procedures dictate that the campus be locked to all outsiders and students secured in classrooms. In spite of this, parents reported that they would most likely still go to the campus to see what they could do. A focus group with parents of high school students revealed the following incident about a shooting that had occurred near the school.

> R4: The last time, was really bad. The teachers locked the students in the classrooms...My daughter called me from underneath her desk, crying, that 'they are shooting outside and I want to go home'...it was really bad, but maybe they did the right thing, locking them up was the right thing...
> R3: They have to be calm.
> R4: It's better for them if they don't walk around outside because the more students there are, the bigger the problem.
> R3: The principal didn't let us come in that time, we were all outside, and we were all asking to get inside because our children were inside and there was shooting.

Some staff members suggested that this reaction could be mitigated through increased communication with the parents, although, staff reported barriers to this communication that included language (with many staff

members being monolingual English speakers) and lack of parental involvement at the schools. Some reported how communication can help build trust between parents and the school, as evidenced by this middle school security guard:

> Here our principal does a good job with communicating with the parents, so they trust him. And through trusting him, they actually trust us [security officers]. So we don't have as many challenges with the parents.

Some parents recognized that their parental instincts to check on their child's safety was not necessarily in alignment with the school's need or capabilities during these events. One parent of a high school student reported, "As a parent, we are trying to find out information. 'Where's my child, what's going on?' And in the schools, that can be a problem, and that can be some of the challenges: communication." Parents agreed that their reactions could be better informed if the school would let them know what they should and should not do.

> That is what the school should send home, information about this. 'You [parents] should do this, you should not come here because we cannot deal with you'...They need to have a plan for the parents too, because I know I can't call because the lines will be busy, but they need to have a plan for when that happens we know what to do and what they are going to do.

Related to parental response was the common practice of students having cell phones on campus. For many parents, giving their child a cell phone was seen as an assurance that their child would be able to contact them in the case of an emergency. In fact, many parents included cell phone communication with their children as a part of their emergency plan, reporting that the idea of being able to directly communicate with their child gave them a sense of assurance. One parent reported that if she noticed a problem at the school (such as a fire) she would text message her son to let him know. School staff, on the other hand, saw the issue of cell phones to be among the major challenges in dealing with an emergency. Staff reported being concerned that students would immediately call their parents if something occurred, increasing the likelihood that parents would descend on the school en masse.

> The kids have cell phones so they will start calling and then all these parents would come. So to me, that makes the situation a little bit worse because now you got to attend to them and their questions and they're talking and you can't attend to the school.

Parental Roles in Case of Emergencies

Parents' immediate reaction to come to the school campus in the event of an emergency was typically explained by not only their concern for their child's well-being but also for their desire to do something—although most indicated that they were not sure what they could do to help. One parent maintained that she would "come to the school to see my kids, …and see if we can help…maybe calm down children. I don't know what I could do, whatever they let me do, whatever they needed."

While staff seemed to be aware that parents would want to help out, they also seemed to realize that most parents would likely focus on their own children and "may not be focusing on other people's children." Staff members reported that there were some limitations with what parents could do to assist due to liability issues. More commonly, staff seemed to feel that the students and school would best be served by parents remaining calm and staying at home while the school dealt with the issue at hand. However, some staff did believe that including parents in some of the planning activities could be beneficial. One elementary staff person mentioned that forming partnerships with the community would ultimately make the school a safer place.

> We need to get parents involved and maybe get them included on the plan. You know…what kind of resources they can provide for the school if there was an emergency. Or even you know, if they have something at home, some kind of plan at home that they can…maybe share with other parents. Getting the community involved.

Other staff suggested that parents may be able to help direct other parents and community members as they arrive at the school about where to go and what to do. Given some of the language barriers that exist between parents and school staff, some thought that this type of parental involvement would facilitate some of the crowd control in the event of a disaster.

Both parents and staff identified some challenges to including parents in the emergency plans and procedures; namely, the general lack of parent involvement at the school. Parent focus group participants commented on several occasions that the group that was assembled was the same group that regularly attended school meetings. Parents at all of the school levels mentioned that parental involvement at the schools was generally lacking, although it appeared to be even more pronounced at the secondary schools. Staff also reported that parental involvement was lacking in the schools. "Parents are not really involved and we really don't have parents to trust in that situation…we have about 4,000 students and we only have about 20 parents participating [in new program]." One elementary

school administrator who described herself as "a very compliant person" stated that schools are required to communicate safety plans to parents on a regular basis. She reported having parent meetings once a quarter where this information was disseminated but that "not many parents show up to the safety meeting. So we're missing a whole sector of people…."

Some parents mentioned that they felt that they were not welcome at the school, stating that when calling the school they may be hung up on. This sense of not being welcome was common at the different school levels, and seemed to be related to the administration at the school and the attempts made to develop strong relationships with the parents.

> It is all about the administration. If there is a good administrator in the school, meeting with teachers and meeting with the parents it won't be like that [lack of communication]. It all depends on the administration the school has.

Discussion

Data from this study confirm that there are a number of challenges related to parents' planned response to a school-based emergency or disaster. Staff respondents were in clear agreement that their biggest concern in the event of an on-campus emergency was the expected inundation by parents. Confirming this concern, almost all of the parents included in this study reported that their immediate response to an emergency at the school would be to arrive at the school to check on their children and offer some sort of assistance. This emergent behavior was perceived to be a major challenge for staff since they believed that parents would likely not pay attention to them, would perhaps remove their children from the school without following procedures and/or would send unauthorized family members to retrieve their children. These challenges would likely be most pronounced during a violent incident at the school or in the surrounding community when no one is allowed in or out of the school. In spite of this universal concern, school staff did not typically describe planning for and creating procedures to deal with this type of parental response.

Communication, both at the school site and externally between parents and their children, emerged as another challenges for staff in dealing with parental response. While an integral part of parents' emergency plans included their children having cell phones in the event of an emergency, school staff, on several occasions, mentioned this as a major challenge for them in dealing with an emergency on campus. Staff reported that students immediately calling their parents to report an emergency would only serve to increase the number of parents who arrived at the school and would create additional obstacles for them

in dealing with the emergency at hand. While parents reported that they would arrive at the school in order to ensure the safety of their children, most also believed that they could be of some assistance to school staff.

A related challenge for school staff was the dissemination of information concerning emergencies and disasters from the school to the parent community when dealing with very limited parent involvement at the school sites. Parent respondents at each of the school levels reported that they typically represented the bulk of parents who were involved at the school in other activities. Staff too reported that they were not able to easily reach a large number of parents. Parent respondents had a number of ideas about how to increase parent involvement at the schools. Some reported that offering meetings at both morning and evening times would allow additional parents who may work different shifts an opportunity to attend. Given that flyers sent home with students with information about upcoming meetings did not seem to be an effective means of communicating with parents, some suggested utilizing the school marquee (described as only being used to announce football games or vacation dates) to post information about upcoming meetings. Given parents' perception that the schools did not necessarily want them to be on campus, school staff may want to consider methods to further welcome parents onto the campus.

While parent involvement was relatively low at the schools, parent respondents were very enthusiastic about learning how to better prepare themselves and their families for emergencies and disasters. In spite of this interest, few had the opportunity to participate in any training opportunities and this often led them to report feeling ill prepared to protect their families. Some parents mentioned that since students participated in emergency drills at the school, they felt that their children were better prepared than they were. Therefore, some relied on their children to pass this type of information along to them. Similarly, Ronan et al. found that providing emergency-related education to students would increase students' awareness of the accompanying risks and that this increased awareness would lead to greater sharing of information with parents [24]. However, given that other research has shown that "unofficial" information may increase an individual's vulnerability in the event of an emergency or disaster, this may not be the best source of information and education for parents [11].

Other studies have shown that education from the school concerning emergencies and disasters was important and was associated with an increase in students' knowledge and perceptions of earthquake disasters. While school education was important in increasing knowledge, even more important was the education provided through family, as this type of education tended to increase action towards preparedness [25]. Therefore, in order to best equip parents

and children for dealing with emergencies and disasters, schools should provide training not only to students but also to parents. Including parents in emergency drills and/or providing regular classes on preparedness activities would likely decrease families' vulnerability during emergencies or disasters. Schools should consider cultural and health literacy in developing and planning emergency preparedness education [13].

Finally, given that parents believe that they can be of some assistance during an emergency, schools should take advantage of this emergent organization and organize parent leaders into appropriate roles. Research has shown that Latinos tend to have greater confidence in information relayed to them by family members, friends and fellow community members [26]. Other research has shown that ethnic minority groups have less trust in government and other officials [27]. Therefore, training parent leaders to facilitate communication between other parents about an on-going emergency or disaster at the school may be a more effective means of communicating with the larger community.

There are some limitations to our study. For our qualitative research, subjects were not randomly selected for focus groups and interviews. Parent respondents in particular, represent the small number of parents involved at the schools. However, samples were appropriately selected to capture perspectives and experiences from a wide school audience. In addition, interviews and focus groups were conducted soon after recent national disasters, which may have increased some participants' awareness of different types of disasters and what should be done to mitigate them.

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