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In 2007, Hurricane Katrina ravaged the southern coastline of the United States in the areas around the Gulf of Mexico. One of the major cities severely hit by the hurricane was New Orleans, which suffered the brunt of the disaster. Due to the drastic regime shift that occurred during the crisis, many people were left with distraught and disjointed families in varying states of precarity. This made people and their priorities shift, and those like Esch, her family, and friends found themselves in new situations in which their relationships were forced to change in order to survive. In Jessica Ward's fictional novel "Salvage the Bones" the main character Esch, a pregnant fifteen year old girl, and her family are caught up in Hurricane Katrina, and they face a great number of choices concerning personal belongings and lives. These choices of leaving pets, leaving homes to be destroyed, and leaving behind family affects these communities forever. These choices force inhabitants to consider what and who is most important during times of crisis. Family relationships change. The drastic changes and strife that Esch's family experienced made the unit change their responsibilities, with the brothers being pushed to accept the roles of caretakers to support the coming child. Ward's novel serves to detail the struggle and natural resilience that people and families face in crisis, and how in disaster, people shift their care, attention, and responsibility over from themselves to their family out of sacrifice.

The data set we were provided came from the Hurricane Digital Memory Bank, which included a series of oral histories coming from those who survived Hurricane Katrina. The

diversity of those interviewed in the data set has a large range, with accounts coming from a man working in the tourism industry, an older female nurse, an early childhood teacher, and etc. All of the individuals interviewed come from a variety of different ages, locations, ethnicities, and socioeconomic backgrounds. Therefore, this dataset gives us a great look at how different people from different backgrounds reacted to Katrina, and how they fared afterwards.



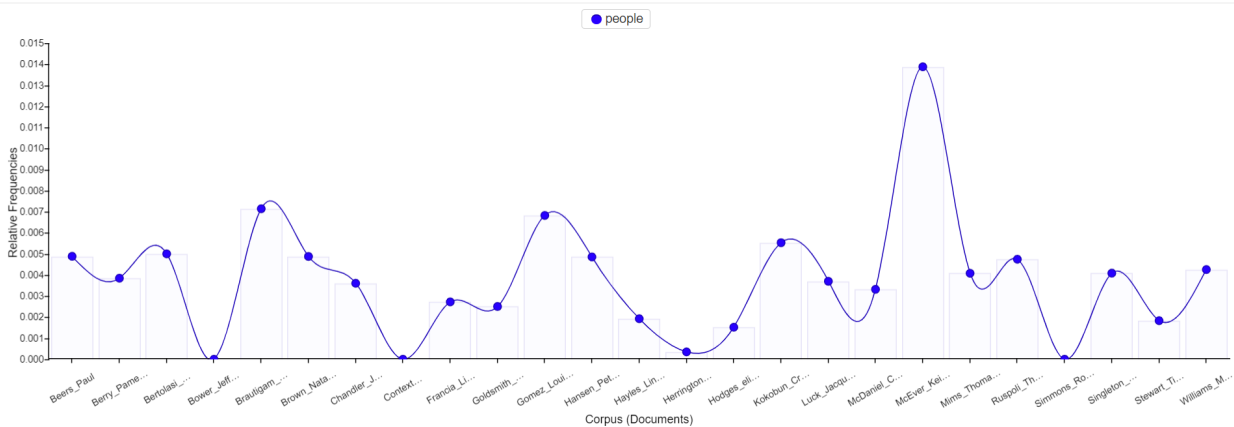
This dataset allows us to extrapolate different information, and relate it to Ward's novel. Trends in the dataset showed that families appeared consistent across the different oral histories. This relates with our hypothesis, that when disaster strikes, people tune their thoughts to nearest of kin. This also relates back to Esch's family in, as we said before, how their dynamic changes after Katrina. Therefore, the data provided a useful insight into the effect on people's psychology during a disaster. A family is one of the most formal social ties a person can have to another, a psychological phenomenon resulting from tribal biological imperatives. A form of coping during disaster must come from this biological imperative. In antiquity, if a tribal human group was to face a disaster, such as storms, blizzards, hunger, disease, etc., the natural response would be to form closer ties with those most immediate you as a way of ensuring your biological subset group survives to pass their genes onto the next generation. This automatic response mechanism

coming from the superseding biological imperative found in all organisms is seen in the way that people in the dataset (and is also exemplified by Esch's family in the novel) form closer ties to their families, and reach out to survive, and help others survive.

When a disaster happens, people are forced to focus even more on the loved ones around them, and depend on those close for survival. An article titled "Disaster Preparation and Recovery: Lessons from Research on Resilience in Human Development" published in *Ecology and Society* found that "[in disaster,] responses of individuals will be influenced by the functioning of the systems in which their lives are embedded, and particularly by the behavior of people they trust or function as a secure base in an attachment relationship" (Ann Masten and Jelena Obradovic 12). This finding makes sense. People tend to reflect the environments in which they are put. If someone is surrounded by "weak" people, with weak social ties and connections, they will find themselves in a "weak" position. The stronger the supporting system you have around you, the stronger you will be overall, and the more resilient you can be to strange disasters that come your way. This finding reflects the situation that Esch and her family are placed in. With a child on the way, and no home or stable income for her and her brothers, the only thing keeping everyone alive and safe is the family system of which they are a part. Esch has to depend upon her brothers for help getting her through her pregnancy. Her family and Big Henry go out of their way to be there for her after the hurricane. Since Esch has a support system, the effects of the hurricane and her surprise pregnancy can be mitigated. As a result of the disaster, their relations and dynamic change. Esch says in relation to her pregnancy that "This baby got plenty of daddies" (Ward, 2011). Esch's two older brothers will play the roles of uncles, her own father has a change in care with her pregnancy, and the family friend of Big Henry will

play his part in assisting. The family’s resilience arises from the disaster, making them care and appreciate what they have, but also survive.

In our hypothesis, we claim that after the occurrence of a natural disaster, people tend to think of others rather than themselves. Our data set does not specify who or what type of people like gender, age group, or race, but people in general.



There are so many ways people can be affected by a natural disaster which may be the reason interviewees in the data don’t specify “people.” In *The Effects of Flooding on Mental Health: Outcomes and Recommendations from a Review of the Literature* written by Stanke, Carla, et al., an experiment was conducted by researchers after hurricane Katrina looking at how the hurricane mentally affected people. Two main types of sources were used to examine the effects of flooding on people’s mental health. “First, a review of the published academic literature and, second, guidance from governmental, non-governmental and other authoritative sources and selected papers that describe how services might be mounted in response to people’s psychosocial and mental health needs after flooding” (Stanke, Carla, et al.). After looking at all this data, researchers started understanding more about how disasters can change people.

Even though natural disasters occur for a short amount of time, the effects on people can be long-term. “The studies analyzed in the report are clear that flooding is very stressful and that

the stress continues for a long time after the water has receded.” (Stanke, Carla, et al.). The thought of a natural disaster occurring again can stress people out and give them added anxiety. Anxiety is like a smell. At first it is very distinct, but towards the end it fades, but it still lingers. Another part of finding out how people are affected by the natural disaster, is finding out which type of people are affected. This can be a very broad group to look at but every piece of data you can get will teach researchers something new. Just because the parents or guardians of a household are in charge of keeping the household safe does not mean they are the only ones stressing out and dealing with mental problems from these disasters.

Children are also greatly affected by the results of a disaster. “There are, however, indications that both children and older people suffer PTSD after flooding and that the prevalence figures may well be greater than those that are found for adults of working age. Children, young people and older people may be more vulnerable than are adults of working age because they are dependent on adults’ responses to the floods that affect families.” (Stanke, Carla, et al.). Children look up to adults as role models so they are going to act and behave in a similar way to how they see others responding to a disaster. It's important for people to look more broadly at the effects of disasters rather than one specific area so they make sure all the problems are noticed and hopefully have a solution too. If healthcare just focuses on adults' mental effects of disasters, the children with mental health issues as a result of the disaster will grow to have more serious problems in the future. This concept does not only apply to mental health but can apply to anything at all.

On the subject of mental health in general, there are plenty of sources regarding specifically the effects of flooding. Extensive research has already demonstrated that the mental effects of flooding and natural disasters are often difficult to discern from common mental health

disorders. Ward displays this notion clearly in the novel where Esch and her siblings show abandonment issues and problems with anxiety and depression throughout the entirety of the story that is exacerbated by the hurricane. This implies that some of these mental health issues may have already been present, however, “research suggests that the incidence and prevalence of common mental disorders after flooding is substantially increased and that these disorders can persist long after the flooding has passed” (Stanke, Carla, et al.). When it comes to the actual act of evacuation, however, the mental effects show themselves differently. For those that decided to evacuate, they may have been more stable mentally and socially in advance of the disaster and thus had the right intangibles necessary to be able to pack up and move away from the disaster. On the other hand, those who did not evacuate “may not have [had] the density and diversity of social connections to help facilitate an evacuation,” (Collins, Jennifer). Thus they were left in a position that may have forced them into more mental turmoil than before the disaster occurred.

Disasters have shown that they have the ability to aggravate mental disorders in people that were already present; however, disasters also cause serious psychological harm to survivors. It’s no secret that disasters evoke unimaginably high levels of stress for those experiencing them, and this stress consequently leaves its mark on the mind. During catastrophes like Hurricanes, children, like Esch and her siblings, appeared more vulnerable than adults to develop PTSD and other mental disorders as well as detrimental “secondary grief reactions” (Bonanno). On top of further amplification of present mental issues, elevated symptoms and occurrences of PTSD and depression are common in the first few months for young survivors. While there are obviously a plethora of negative effects when it comes to disasters, there is one small upside that may serve as hope for survivors similar to Esch: “the most common outcome across studies tends to a relatively stable trajectory of healthy adjustment, or resilience” (Bonanno). This idea of

resilience has been tested and confirmed time after time, most importantly for survivors of disasters that are completely out of their hands. There are undeniably plenty of negative mental effects that occur from disaster, but studies display the majority of survivors displaying high amounts of resilience.

While the positive and negative mental effects of people's choices to evacuate or not is important to take note of, it proved salient for this project to dig into data and statistics regarding evacuees' demographics and social connections. To preface, there are many sources that have contradicting viewpoints or facts; however, this is attributed to sources being in regards to different natural disasters (Hurricane Katrina vs. Hurricane Irma). Because of this, research showed an increase in people actually willing to evacuate from before to after Katrina. Meanwhile, extensive research clearly displays the disparity between evacuees and non-evacuees on the basis of race. Over 65% of non-hispanic black individuals and families, like Esch and her family, were either unable or chose not to evacuate ahead of the storm (Thiede and Brown). This trend follows suit with people who have perceived high local and/or extra-local social ties with over 60% evacuating during or after the storm or even not at all. To contextualize, this data suggests, "Through statistical analyses, that the density and diversity dimensions of social connections have a significant effect on the decision to evacuate." (Collins). Our research makes it clear that people of color were, more often than not, non-evacuees; this is a result of many factors, however, that are heavily illustrated by Ward in *Salvage The Bones*. Much like our data set, Esch's experiences offer first-hand accounts of what these survivors are actually experiencing.

As with anything, numbers only tell some of the story; but real accounts from survivors of these natural disasters provide a clearer view into the choices that are made during natural

disasters to complement facts and statistics in this project. Accounts and non-quantitative surveys of residents of Southwestern Florida during Hurricane Irma present interesting views and opinions regarding evacuation. One interesting trend that cropped up as a result of these surveys was the difference between peoples', for lack of a better term, moods at varying rest-stops. For example, " When interviewing the evacuees, the rejection rate was higher at the I-75 rest area where more people wanted to use the bathroom facilities and then get back on the road than at the Florida Turnpike rest area on 7 September where people spent more time at the rest area since there was food and gasoline (and charging stations for electric cars)" (Collins). While this may be interpreted as a result of different amenities being provided, it's no coincidence that those who evacuated and stopped at the I-75 rest-area significantly closer to the coast than the Florida Turnpike rest area appeared to be in much more of a hurry.

Works Cited

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