

# Factors that affect a person's vulnerability to flooding: A case study of Robertsbridge, East Sussex.

## 1. Introduction

A flood is an excess accumulation of water across a land surface, whereby water rises or flows over land that is not normally submerged (Ward, 1978, in Few and Matthies, 2006). Soils have basic infiltration capacity; once this is exceeded, the excess water runs off as overland flow (Miller, 1997). The study of floods is critical in Physical Geography research, as they are the most common natural disaster in the UK (Miller, 1997).

Robertsbridge is a small village that lies 12 miles to the North of Hastings in East Sussex (AboutRobertsbridge, 2017). The area has a population of 2047 people, with 51% being aged 45 and above. The River Rother runs through the heart of the village, making the community prone to flooding. In October 2000, a 1-in-100 year flood devastated the residents and damaged over 100 homes (please see **figure 1**) (Rother District Council, 2008).

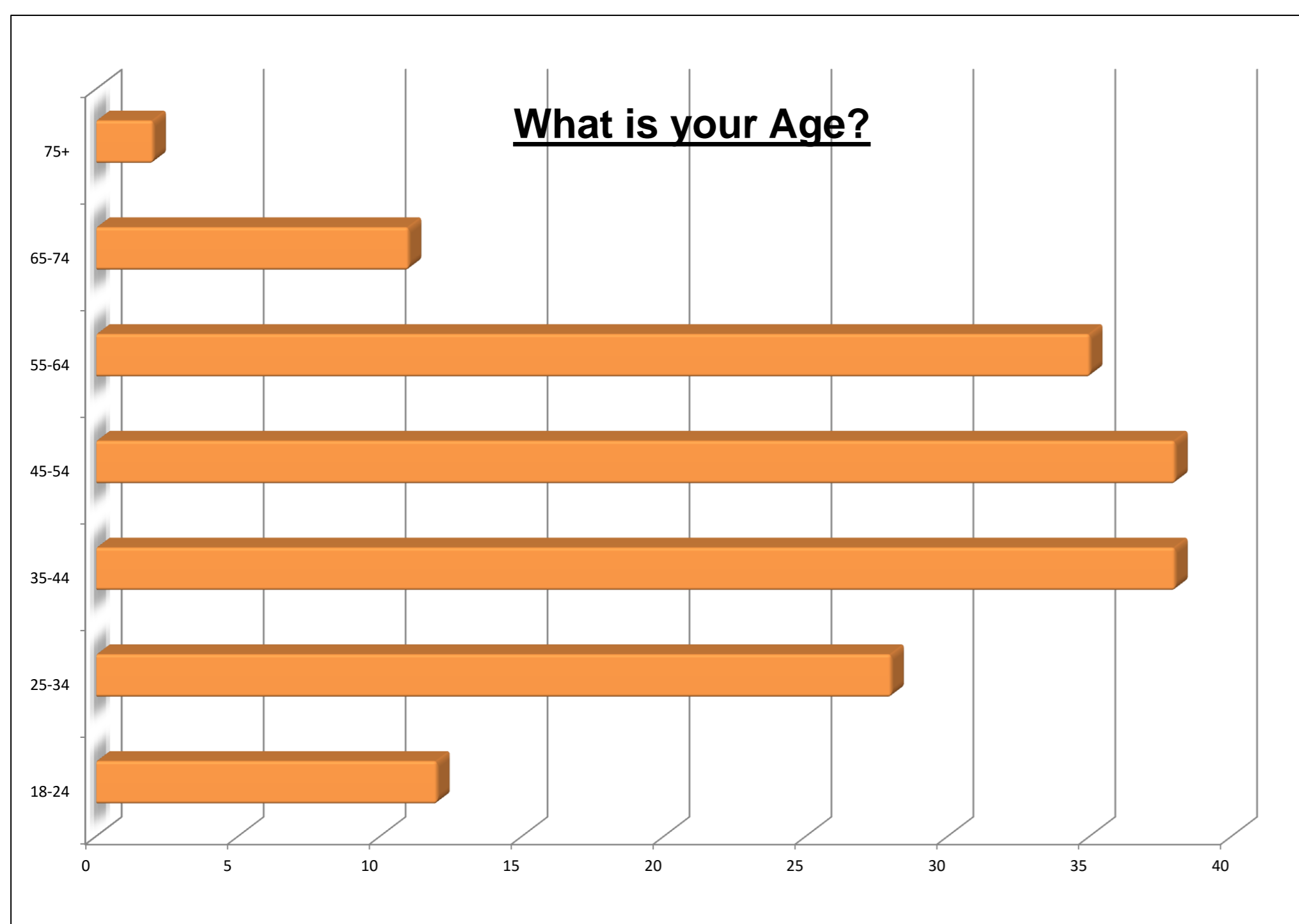
The overall aim of the dissertation was to determine factors that affect a person's vulnerability to flooding, using Robertsbridge as the main case study. Primary focus within the literature is large-scale flood events in areas with large populations (Arnold *et al.*, 2006) therefore the thesis brings awareness to small-scale UK flood events. The research also highlights the importance of a mixed methods approach in contemporary geography (Guetterman *et al.*, 2017).

## 2. Methodology

The Literature was reviewed from a macro scale, looking at global flood research from the last 10-20 years. From the literature review research a survey was dispersed through the South East targeting flood victims on a regional scale, and currently has 146 responses as of 7th September 2017. To analyse the results of the survey, Chi-Squared, Mann Whitney-U and Spearman's Rho were applied (Chan, 2012a; 2013b). Then from the survey answers, 9 semi-structured interviews with Robertsbridge flood victims were undertaken to receive first-hand accounts of the devastating floods that have struck East Sussex within the past 10-20 years.

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**Figure 1:** Photograph of the High Street during the October 2000 flood (Salehurst and Robertsbridge Parish Council, 2008).



**Figure 2:** Bar chart showing the ages of the survey respondents.

## 3. Results

The survey data conveyed that there was not a significant relationship between a person's age and how vulnerable they felt. However, from the interview responses, age was the third most important vulnerability factor. This is perhaps due to the age of the interview participants, many of whom considered themselves to be elderly please see **figure 2**) - In particular, the mobility and frailty of elderly people in preparation for a flood event. From the survey data, there is a "very weak" correlation between a person's age and how prepared they feel for a flood event.

From the survey results, there was not evidence to suggest a relationship between a person's financial stability and how vulnerable they feel to an event. Overall there is not a relationship between the effectiveness of the emergency services and how prepared someone is for a flood event. This could be due to reliance on the emergency services.

## 4. Conclusion

This study expanded on the academic literature regarding flooding and vulnerability over the last 10-20 years to establish the factors that affected a person's vulnerability to flooding in East Sussex. Five research questions were explored using a contemporary mixed methods approach of a Literature Review, Survey, and Interviews (Guetterman *et al.*, 2017). The research has highlighted the importance of an advocacy approach by using local knowledge and expertise to help mitigate flood vulnerability expressed through all three data collection methods (Gomez and Jones III, 2010).

Results indicate that **preparedness, age, and living close to a river are the most important vulnerability factors to consider during a flood event.** A key limitation for this thesis is certain political and infrastructure factors are not sufficiently explored. Furthermore, It would be interesting to explore the vulnerability factor of pets because it was the fourth most discussed issue from the interviews.