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Group processes in community responses to flooding: Implications for resilience and wellbeing

by

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Thesis submitted for the degree of Doctor of Philosophy in Psychology

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I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

Evangelos Ntontis

Signature.....

Για τους γονείς μου...

*“They abhorred what had happened,
but they clearly relished who they briefly became”*

Rebecca Solnit

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Context statement

This thesis has been prepared as a series of papers for publication. The exceptions to this are Chapter 1 and Chapter 6, which serve as the introduction and discussion chapters respectively and are more similar to the traditional thesis formatting. In Chapter 1 I provide an overview of the thesis as a whole, whereas in Chapter 6 I discuss general implications of my findings and offer some concluding remarks. Chapters 2 and 3 have been published, whereas chapters 4 and 5 are currently under review. Each paper's reference is provided on the title page of each chapter. Given the paper-based format of the thesis, the text within the chapters is the same as that of the published or submitted papers. A single reference list for all chapters is provided at the end of the thesis. All figures and tables have been numbered so as to be consistent with the chapter numbers. When I refer to a chapter of this thesis within another chapter, I cite both the paper's reference as well as the corresponding chapter in this thesis.

Papers 2, 3, and 4 of this thesis have five authors: myself, Dr John Drury and Dr Richard Amlôt who are my main academic supervisors, and Dr James Rubin and Professor Richard Williams who are my associate supervisors. Paper 5 has an additional author, Patricio Saavedra. I am the lead author on all papers, which shows that I collected the data, conducted the analysis, wrote the first draft of each chapter, and was the corresponding author for each publication. For Chapters 2, 3, and 4, I received comments from all my supervisors, which I incorporated in subsequent drafts. For Chapter 5, I received comments from all my supervisors as well as from Patricio Saavedra on the first draft of the paper. Patricio Saavedra also provided advice and practical support with regard to the analysis of the survey data presented in Chapter 5. The author order is based on each author's input in each paper.

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University of Sussex

Doctor of Philosophy in Psychology

**Group processes in community responses to flooding: Implications for resilience
and wellbeing****Summary**

The development of community resilience is one of the strategies that UK governments employ to guard against the severe and long-lasting impact of floods. However, current approaches to community resilience emphasize the role of pre-existing networks, largely ignoring the emergent togetherness between strangers that often characterizes disasters. My aim in this thesis is to use the social identity approach to collective resilience in order to investigate community responses to flooding and suggest a theoretically-driven approach to community resilience.

I present a critical review of how communities and their resilience regarding floods are represented in official guidance documents. The analysis shows that there are both static and reified, as well as more complex understandings of community resilience based on various psychological, cognitive, and relational concepts. Communities are either depicted as rational and agentic, or as passive receivers of expert knowledge. However, the documents mostly ignore psychological understandings of communities, as well as social identity understandings of collective resilience in disasters.

The empirical research in this thesis took place at York, UK, which flooded in December 2015, and included two interview studies conducted 2 and 15 months after the floods, and three cross-sectional surveys administered 8, 15, and 21 months post-flood. Results show that shared community identity emerges due to common fate and leads to higher expectations and provision of support, shared goals, enhanced collective efficacy, and increased well-being among residents. Common fate, shared identity, and

the strength of their relationship decline over time, but communication can play a crucial role in the maintenance of shared identity.

Results show that social identity processes play a role in how communities respond to flooding. Thus, I argue that current approaches to community resilience can benefit by incorporating social identity understandings of psychological communities and collective resilience in theory and practice.

Chapter 1

Overview of research

1. Introduction

In this thesis, I explore how the social identity approach in social psychology can complement existing approaches to community resilience in relation to flooding. Before presenting the studies, I use this chapter to set the scene by presenting the main problem under consideration, discussing the relevant literature and highlighting its limitations. I introduce the core questions covered by this thesis, explain in detail the research strategy I followed, and present a summary of each chapter.

Specifically, I begin by discussing flooding and community responses to it. Since this thesis concerns flooding in the UK, I consider the significance of incidents both at the UK level and globally. I present evidence on the widespread and long-term impact of floods, the distinct stressors involved, and particularly the adverse mental health outcomes for affected populations.

I continue by presenting one of the strategies that the UK government uses to deal with the impact of floods, which is the development and facilitation of community resilience. Based on the current academic literature and criticisms associated with it, I argue that current understandings of community resilience are based on the concept of social capital and focus on the benefits of pre-existing social networks in mobilising support for affected people. Notwithstanding the positive characteristics of strong networks in the population, I argue that these conceptualisations cannot account for a wide range of social behaviours observed in disasters, such as the emergence of novel, ‘altruistic’ communities (Barton, 1969; Fritz & Williams, 1957; Solnit, 2009). I also suggest that most frameworks ignore the propensity of people to self-organise and provide support, including the psychological mechanisms that can explain behaviours that I refer to as collective resilience (Drury, 2012, 2018). In general, I suggest that the omission of these emergent communities, and of activities to encourage and support this

self-organisation in disasters by responding organisations, undermines the importance of greater inclusion of the public in risk reduction (Drury, 2012; Lorenz, Schulze, & Voss, 2017; Strandh & Eklund, 2017; Waldman, Yumagulova, Mackwani, Benson, & Stone, 2017).

To address this issue, I proceed by presenting myths that are often used to pathologise the behaviour of groups in emergencies, and which could account for the absence of consideration of emergency communities of support within emergency planning. I review research that tests these negative representations and emphasises the potential of the public to be a resource rather than a threat. At this point, I introduce the theoretical framework of self-categorisation theory, which is used to conceptualise and explain emergent groupness in disasters. I also summarise the limitations of the existing literature and explicitly state the research questions that shape the studies conducted as parts of this thesis, describe and justify the mixed-method approach used, and lastly, I provide an overview of the studies and their findings. The thesis continues with the presentation of the four separate studies.

1.1 Literature Review

1.1.1 Floods: Their significance globally and in the UK

Flooding is defined as ‘*a body of water which rises to overflow land which is not normally submerged*’ (Ward, 1978, p. 5), and can be caused by various factors including extreme rainfall, tidal waves or wave extremes, the thawing of ice, or structural problems like dam failures (Few, 2007; WHO Regional Office for Europe, 2013).

Floods are the most common weather-related major incidents (Few, 2007). Reports from the World Health Organization (WHO) on European floods reveal that 50 out of 53 European countries experienced flooding between 2000 and 2013 (WHO

Regional Office for Europe, 2013). Floods also are a leading cause of disasters worldwide and have the potential to affect a wide range of the population (Few, 2007). To help picture their range of effect, it is sufficient to say that during the decade between 1993 and 2002 floods, ‘affected more people across the globe (140 million per year on average) than all the other natural or technological disasters put together’ (IFRC, 2003, p. 179). Also, the period between 2005 and 2014 saw around 85 million people affected, while only in 2015 around 27 million people were affected by flooding (UNISDR, 2016). Floods can have severe impacts on health, with death being the most serious. According to the WHO, in the last 30 years, floods killed more than 200,000 people worldwide and generally affected around 2.8 billion people. During the same period, European flood-related deaths amount to around 1,000 people, with 3.4 million people affected in some way (WHO Regional Office for Europe, 2013). Thus, it becomes apparent then that the seriousness and extensive impact of floods on mortality and particularly with regard to morbidity are not to be underestimated.

If the frequency and wide range of floods paint a grim picture of the phenomenon, current reports on the effects of climate change on flooding do not help in creating more optimistic expectations for the future. There is ample evidence that climate change has an impact on the frequency and impact of floods. According to the WHO, climate change will create more rainfall resulting in more frequent and more intense floods (WHO Regional Office for Europe, 2013). Heavy precipitation itself is projected to increase in Europe, with more extreme and long-lasting intense showers. Consequently, an extra 250,000 to 400,000 people are likely to be affected by river flooding by 2080, more than double of the affected population between 1961 and 1990 (WHO Regional Office for Europe, 2013). Millions of people residing in Northern and Western Europe are likely to suffer from coastal flooding due to storm surges and sea-level rises by 2080

(WHO Regional Office for Europe, 2013). Climate change projections at a European level show that scenarios on temperature increases of 1.5, 2 and 3 degrees Celsius are linked to increased flood risks in Central and Western Europe (Alfieri, Dottori, Betts, Salamon, & Feyen, 2018). The impact of climate change is also reflected in the fact that it is listed as one of the main five factors that can have a negative impact upon global development (World Economic Forum, 2017).

The United Kingdom is also prone to flooding. In fact, flooding is one of the major national risks for the UK regarding its impact and likelihood (Cabinet Office, 2015). The UK has been hit by a series of severe floods in the recent years (HM Government, 2016), and has been one of the most severely-hit countries in the European region (WHO Regional Office for Europe, 2013). However, not only does the UK have a history of flooding, but future predictions of the impact of climate change are not optimistic. More than 5 million people who reside or work in 2.4 million properties are at some risk of flooding (WHO Regional Office for Europe, 2013). Around 330,000 UK properties currently face a significant risk of flooding, but this number is likely to increase to between 630,000 and 1.2 million houses by 2080 due to the impact of climate change. Moreover, damage costs are likely to increase from 1 billion GBP to between 1.8 and 5.6 billion GBP by 2080 (Committee on Climate Change, 2012).

The aim of this thesis is not to present an in-depth overview and analysis of floods. However, the evidence presented here helps to emphasise the importance of floods due to their widespread effects, both globally and for the UK. More specifically, what makes floods a case worthy of investigation is their severe and often long-term impact on the affected communities. In the next sub-section, I discuss the characteristics of the impact of flooding and focus on its negative mental health aspects.

1.1.2 The impacts of flooding: Its mental health aspects

There are various important matters on which floods can impact including damage to infrastructure, economic losses, and displacement. However, my aim in this chapter is not to provide an extensive overview of all types of damage that floods can cause; instead, I focus on the ways in which floods can impact upon the health and, more specifically, the mental health of survivors. Floods can take their toll on both the disrupted population as well as on the health of affected populations through the effects of both primary stressors and secondary stressors.

The term primary stressors refers to stressors '*inherent in particular major incidents, disasters and emergencies, and arising directly from those events*' (Department of Health, 2009, p. 20). Primary stressors can involve deaths or watching someone dying, having one's house flooded, or sustaining physical injuries or diseases like cuts, fractures, punctures, electric shocks, and diarrhoeal diseases. Floods can also cause vector and rodent-borne diseases such as malaria, chemical contaminations, as well as infections in people's respiratory systems, skin, and eyes (for an extended discussion see Ahern & Kovats, 2007).

Secondary stressors refer to stressors '*following from and are consequential on what has taken place*' (Department of Health, 2009, p. 20). Secondary stressors differ to primary stressors in the sense that they are either persisting primary stressors that end up inflicting long-term damage or arise as indirect outcomes of the main event. Secondary stressors include economic difficulties such as loss of income or employment and reduction in the values of houses, difficulties in claiming back compensation from insurance companies, problems in the recovery period and in rebuilding homes. They can also take the form of the loss of physical possessions, new or re-appearing and persisting health conditions, lack of access to health-care facilities, loss of social

networks and social support, as well as loss of control and agency over one's life, and fear of recurrence of the event (for a detailed typology see Lock et al., 2012). Secondary stressors can also arise from the organisation of society and the inadequacy of the response to the disaster.

Stressors that arise from floods have also been linked to the mental health impact of floods (Extreme Events and Health Protection Public Health England, 2014; Stanke, Murray, Amlôt, Nurse, & Williams, 2012). Generally, floods have been associated with common mental health disorders including anxiety, depression, stress, and PTSD that can often follow the main event (Ahern & Kovats, 2007). A detailed examination of the mental health aspect of flooding impact might be beyond the scope of this thesis; however, it is essential to discuss how the impact and persistence of secondary stressors are directly related to mental health outcomes.

The extended adverse effects of floods on people's mental health and wellbeing are widely recognised by researchers (Stanke et al., 2012) and are considered in guidance and policy documents issued by governments and other organisations (Committee on Climate Change, 2012, 2015; Healthcare System Adaptation Report Working Group, 2015; Pitt, 2008). Research on communities affected by flooding has provided evidence for the links between secondary stressors and psychosocial morbidity. Loss of personal items, for example, and flood-affected residents' concerns about their and their families' health, and relationship problems are associated with increased chances of PTSD, depression, and anxiety (Tempest, English National Study on Flooding and Health Study Group, Carter, Beck, & Rubin, 2017).

There is also a direct link between the persistence of secondary stressors and prolonged damage in the aftermath of floods (Stanke et al., 2012). Damage does not stop when people return to their houses, but can be prolonged. In fact, flood recovery

itself is not a straightforward process (Medd, Walker, Mort, & Watson, 2010). The adverse health effects of floods can persist up to a year after the flood event, with flooded and disrupted residents (who faced disruption but without water entering the house) reporting higher odds of PTSD, depression, and anxiety compared to non-affected residents (Waite et al., 2017). Moreover, experiencing disruption in terms of health, social care, education and working environment is associated with higher rates of psychosocial morbidity (Waite et al., 2017). Research on the prevalence of psychosocial morbidity two years after a flood even found that depression, anxiety, and PTSD were more prevalent in flooded and disrupted residents compared to unaffected participants, but at reduced levels compared to year one (Jermacane et al., 2018).

Researchers have also investigated the mechanisms through which different stressors can be linked to psychosocial morbidity. Flooded residents, for example, who experienced ongoing damage to property experienced higher psychosocial morbidity compared to those who did not (Jermacane et al., 2018). More generally, the destruction of what residents consider to be home, a sense of homelessness, the disruption of social relationships, as well as the loss of possessions are linked to anxiety and depression (Carroll, Morbey, Balogh, & Araoz, 2009). Similar work by Tapsell and Tunstall (2008) has highlighted the important link between the disruption of a 'sense of place' and mental health outcomes. For some residents, the perception of the disruption of place as irreparable can cause ongoing trauma and the prevention of recovery. At the same time, prized possessions can be lost instantly, due to the water, or later, due to contamination, and restoration projects can last for much longer than originally thought (Carroll et al., 2009). Moreover, deterioration of people's social networks, as well as reduced expectations of social support from others have also been shown to be a significant predictor of mental health problems (Kaniasty & Norris, 1993; Norris, Stevens,

Pfefferbaum, Wyche, & Pfefferbaum, 2008). Finally, findings highlight how flooded residents' wellbeing can be negatively affected by a perceived lack of agency with regard to the causes of the floods, the institutional response, and the recovery process (Walker-Springett, Butler, & Adger, 2017).

This is not an attempt to create an exhaustive list of how floods can negatively affect (mental) health. Rather, my aim is to contextualise the problem by showing why floods are worthy of investigation; my argument is supported by a comprehensive and evidence-based consensus on the potential of floods to cause serious disruption and distress to those people who are affected. Thus, this brief review indicates the commonality, wide range of impact, and prolonged psychosocial damage that floods can cause globally and more specifically in the UK. I now turn to the methods used to guard against the risks of flooding. I start by discussing the official strategies that the UK government follows to deal with floods and their impact. As I show, the government attempts to achieve this by developing the resilience of communities.

1.1.3 Community resilience in UK guidance and policy

The frequency and impacts of disasters are rising on a global scale, and are likely to become more frequent and their impacts more severe due to the effects of climate change (Murray, Maini, Clarke, & Eltinay, 2016). Moreover, disasters pose an extreme risk to the mental health and psychosocial wellbeing of the affected populations (World Health Organization and Public Health England and UNISDR, 2017). As a result, there have been international calls to minimise the risk and impact of disasters and strengthen the resilience of communities. This is evident in the Sendai Framework for Disaster Risk Reduction, whose goals are summarised as '*focused on preventing new risk, reducing existing risk, and strengthening resilience*' (UNISDR, 2015, p. 5; World

Health Organization and Public Health England and UNISDR, 2017). The need to enhance the resilience of communities is also treated as a protective factor against the psychosocial impact of disasters, as it can benefit the disaster preparedness, response, and recovery phases, and reduce underlying vulnerabilities (Morton & Lurie, 2013; World Health Organization and Public Health England and UNISDR, 2017).

Emergency preparedness refers to the steps taken to increase safety before, during, and after an emergency. The response phase refers among others to the containment of the incident, lifesaving activities, the maintenance of critical facilities, the health and safety of responders, and control and coordination of activities. Finally, the recovery phase includes among others the assessment of life and the return of systems to at least minimum operating standards, the restoration of individual and community services, legal and financial assessments, and the general restoration to normality (Department of the Environment, Heritage & Local Government, 2013).

Similar calls to enhance the resilience of communities can also be observed in UK policy and guidance. Community resilience in the UK is the primary focus of the Strategic National Framework on Community Resilience (Cabinet Office, 2011). The document *‘demonstrates the Government’s commitment to enhancing our [the UK’s] national security, including by seeking to build and develop the existing structures and capabilities with a contribution from interested members of the public to strengthen resilience at a local level’* (p. 4). Similarly, the Pitt review, written after the 2007 UK floods, acknowledges the need to enhance the resilience of communities (Pitt, 2008, p. xxxiv).

The Strategic National Framework on Community Resilience (Cabinet Office, 2011) is a component of strategies created to meet the requirements of the UK’s Civil Contingencies Act 2004 (HMSO, 2004). It became law in the UK following a series of

events including the fuel protests and mass flooding in 2000, an outbreak of foot-and-mouth disease in 2001, but mainly the threat of terrorism following the 9/11 attacks. It acknowledges the propensity of the public to offer support during emergencies (Cole, Walters, & Lynch, 2011). It also recognises the likely inability of local emergency responders to assist everyone in need in the event of a major incident and addresses the need for communities to be, to some degree, self-sufficient and collaborate with local authorities when dealing with emergencies (Cabinet Office, 2011). This is evident in the way that the framework defines community resilience, which reads as, *‘Communities and individuals harnessing local resources and expertise to help themselves in an emergency, in a way that complements the response of the emergency services.’* (p. 4). Thus, the need for current civil contingencies guidance to include aspects of community resilience is a recognition of the ability of communities to cope and recover and subsequent treatment of their agency as an element to be facilitated and harnessed.

An issue that arises relates to conceptualisation of the nature of communities. A closer look at the Strategic National Framework on Community Resilience (Cabinet Office, 2011) shows that, apart from pre-existing communities described as ‘geographical communities,’ ‘communities of interest’ and ‘communities of supporters’, the document also refers to ‘communities of circumstance’, which *‘are created when groups of people are affected by the same incident, such as a train crash. These groups of individuals are unlikely to have the same interests or come from the same geographical area but may form a community in the aftermath of an event’* (Cabinet Office, 2011, p. 12). However, despite being recognised, these communities are not described further or explained in the document. As we see later on, this is also the case in other policy and guidance documents (Ntontis et al., 2018a: Chapter 2). What I suggest is that consideration of the role of communities of circumstance in

policy and practice could be improved by understanding the psychosocial factors associated with their formation and operation.

Research has long recognised the active response of members of the public (Fritz & Williams, 1957), even though the latter was only acknowledged in civil contingencies guidance since 9/11. Members of the public are usually the first to respond in an emergency, before the arrival of the official emergency responders (Drury, Novelli, & Stott, 2013), and it has been suggested that their inclusion in emergency plans can be an important element of preparedness (Cole et al., 2011; Durodié & Wessely, 2002). Similar calls come from the area of flood risk management, and there are suggestions that more information and greater involvement of the public can result in improved decision-making, positive social outcomes, and increased legitimacy (for an extended discussion see Challies, Newig, Thaler, Kochskämper, & Levin-Keitel, 2015).

This overview of international and national use of community resilience and the contextualisation of community resilience in the UK is by no means exhaustive, and a detailed analysis of how the concepts of communities and ‘community resilience’ are used in UK documents are presented in Chapter 2 of this thesis (Ntontis et al., 2018b). However, this summary helps me to show that community resilience has become a core element of discussions around disaster preparedness, mitigation, and recovery, and currently is a major element of planning at the national level of the UK.

The ever-increasing use of the term is not without problems, however. Different parties offer different definitions and conceptualisations, and I argue that a critical look into such representations is essential, since the latter are not value-free but can have implications for policy and practice. I also make the case in this thesis that a critical look into the different construals of community resilience informed by a social psychological perspective can allow for the theoretical enrichment of the concept and its

application. Thus, I continue by offering an overview of the debate surrounding the concept of community resilience.

1.1.4 The debate on community resilience: Definitions and elements

Community resilience might be a widely used concept, but with regard to its exact definition, there is an extensive, ongoing, cross-disciplinary debate that has not reached a definitive conclusion (Furedi, 2008; Patel, Rogers, Amlôt, & Rubin, 2017). Similarly, the processes comprising the concept are far from specific (Furedi, 2008). Importantly, Norris et al. (2008) define the concept as, *‘a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance’* (p. 130). The authors come to this conclusion after analysing definitions of community resilience and its comprising elements and suggest that, *‘resilience is better conceptualized as an ability or process than as an outcome’* as well as that, *‘resilience is better conceptualized as adaptability than as stability’* (p. 130). I argue that this conceptualisation is helpful because it avoids the reification of the concept and its treatment as an inherent and unchanging characteristic and allows for the exploration of processes that can be considered to constitute community resilience.

Patel et al. (2017) identify the core elements that appear across different definitions of community resilience, which comprise the local knowledge of communities, community networks and relationships, effective communication, pre- and post-disaster health, leadership, the available resources, economic investment, preparedness, and mental outlook in the face of adversity. They conclude by stating that it might be appropriate *‘to abandon the search for a single, precise definition of community resilience’* (p. 10), and, instead, discuss community resilience as a general term that encompasses the characteristics listed above. Importantly though, Patel et al.

(2017) mention that it might be best for academics, practitioners, and policymakers, ‘*to be explicit as to the particular elements of resilience they are focusing on in their research or interventions*’ (p. 11), since, ‘*all-encompassing definitions [...] may be too complex to apply at the local level*’ (p. 10).

I adopt the perspective of Norris et al. (2008) in this thesis and treat community resilience as a process, as well as the suggestion by Patel et al. (2017) to move away from all-encompassing descriptive conceptualisations of community resilience that lack a clear-cut focus on precise elements and processes. However, a hint of vagueness remains, since a specific framework could be specified through which community resilience processes can be further explored. As a result, in this thesis, I attempt to explain community resilience phenomena through the social psychological framework of collective resilience. Collective resilience has been used to refer to the ways that networks and social bonds hold communities together, enable provision of social support and facilitate recovery (Fielding & Anderson, 2008). However, I adopt a social psychological usage of collective resilience that focuses on the inherent potential of crowds to collectively organise and provide and expect support during emergencies, informed by the social identity approach (Drury, 2012; Williams & Drury, 2009, 2010).

But, before I outline the social psychological mechanisms of collective resilience as a means of understanding community resilience processes, I discuss current theoretical underpinnings of community resilience, as observed in most current theorising about, policy for, and practice with respect to community resilience. I discuss the wide use of existing networks and bonds to account for solidarity in disasters and subsequent benefits in community resilience as explained through the concept of social capital. Then, I present critiques and limitations of the concept and

offer an alternative social psychological approach based on the tenets of the self-categorisation theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987)

1.1.5 Social capital and community resilience

Norris et al. (2008) present four interlinked primary sets of resources that give rise to community resilience, which they define as ‘*a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance*’ (p. 130). These sets of resources comprise of economic development, social capital, information and communication, and community competence (for an extensive discussion see Norris et al., 2008). My aim in this chapter is not to discuss all four elements, but to focus on social capital because it is the most widely used concept in contemporary community resilience theory and practice.

Social capital is defined as, ‘*the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition*’ (Bourdieu, 1986, p. 21). Others have used the term to refer to the ways that trust, social bonds, and norms of reciprocity stemming from dense social networks can benefit society (Helliwell & Putnam, 2004; Putnam, 1993; Putnam, 1995). It has been argued that, apart from physical infrastructure, robust social infrastructure, like strong social capital, can increase the effectiveness of communities in dealing with unexpected incidents and benefit recovery processes (Aldrich, 2017; Aldrich & Meyer, 2014). Norris et al. (2008) explain that strong networks can be sources of support that is actually provided and perceived by recipients as such. Communities strong in social capital can be conceptualised as possessing strong networks of engagement in various aspects of social life. Engagement, in turn, can foster norms of reciprocity and social trust, reduce

opportunism and increase social interaction and collective action (Aldrich & Meyer, 2014; Putnam, 1995; Putnam, 2000), increase happiness and wellbeing in times of crisis (Helliwell, Huang, & Wang, 2014), and contribute to a stronger sense of community, place attachment, and active participation (Norris et al., 2008).

Communities in disasters are usually characterised by a sense of continuity and creativity, which has been associated with the robustness of social capital, embedded within existing networks and social relations (Dynes, 2006). In this respect, emergencies do not constitute a *break in experience* (Dynes, 2006, p. 20) in the everyday life of community members – rather, individual persons adapt to the new reality and behaviour is regulated by pre-existing norms of conduct, social roles and obligations associated with them. Strong social capital has proven to be a valuable resource for the response, recovery, and future preparedness of affected communities.

Regarding preparedness, Dynes (2006) suggests that community knowledge and resources can be used to develop skills that are useful in responding to disasters, such as search and rescue and improving residents' capabilities in first aid, which can enhance their sense of responsibility towards the community. Similarly, social capital in the forms of higher perception of fairness and trust in the community has been associated with higher rates of disaster preparedness (Reininger et al., 2013).

As regards responses to disasters, Aldrich (2017) shows how different types of social capital contributed to mass mobilisation and collective action in the aftermath of the Christchurch earthquake in New Zealand. Pre-existing networks and trust can enhance mutual assistance and the provision of support between neighbours when social and material resources are not accessible due to the widespread disruption and can motivate people to take mitigation measures such as placing sandbags, assisting in evacuations, or helping residents in need. Moreover, organisations can improve disaster

responses by considering habitual practices that community members perform in the course of everyday life, as well as considering the pre-existing networks that operate in extreme situations (Dynes, 2006).

Regarding recovery, communities with stronger pre-existing networks can have faster and better recovery due to increased allocation of resources and residents' increased motivation to support people in need, while lack of connections with more affluent groups outside the affected area can negatively affect the presence of resources (Elliott, Haney, & Sams-Abiodun, 2010). However, strong networks between communities can become bridges for mobilising and providing social support in the aftermath (Aldrich, 2017). While most people receive the necessary practical, emotional, and financial support from family and friends during the direct impact of disasters, networks with communities of different socioeconomic status can provide those affected with more information and resources in the long run (Hawkins & Maurer, 2010). There are cases in which low-income but more connected communities have recovered much faster and more efficiently from flooding compared to more affluent but less connected communities due to the improved allocation of resources and coordination that connectedness brings (Chamlee-Wright & Storr, 2009). Social capital can also support the cohesiveness of communities since people with a stable place attachment and dense social networks are more likely to rebuild their damaged property and less likely to relocate (Aldrich, 2017). Social capital is also positively related to improved mental health after disasters (Wind, Fordham, & Komproe, 2011).

Social capital is widely used in UK documents that discuss community resilience. The Strategic National Framework on Community Resilience (Cabinet Office, 2011), for example, mentions that, '*the benefits to the community of social capital are best demonstrated in the way in which a community copes during and after an emergency*'

(p. 11). Similarly, a report from the Joseph Rowntree Foundation on the effects of climate change, including flooding, on wellbeing, states that the levels of social capital can help understand communities' response and resilience, while communities with lower levels of social capital are likely to be more severely affected (Lindley et al., 2011). A later report from the same institution lists 'community capital' as one of the main five factors that can affect community resilience to climate change (Twigger-Ross et al., 2015), while low levels of social capital are also listed among the factors that can contribute to trauma in a document on psychosocial care for people affected by disasters from NATO (NATO Joint Medical Committee, 2009). Overall, it is apparent that the concept has diffused within the realms of public policy.

Despite their benefits, the 'dark side' of strong networks is also often highlighted. For example, strong structural social capital that manifests as engagement with social structures in disaster situations can enhance transmission of anxiety and stress due to seeing others as being affected who are perceived as close to self (Wind et al., 2011). Moreover, strong networks between majority members can reinforce discrimination towards outsiders and make the recovery period harder for marginalised or minority groups (Aldrich, 2011).

In their excellent survey study in flood-affected communities in Australia, Wickes, Zahnow, Taylor, and Piquero (2015) found that, while social capital can help reduce social problems in general and under normal circumstances, it might not be as effective in further reducing social problems in communities after their being affected by flooding compared to communities unaffected by floods. In this light, the authors suggest that, while social capital might have played an important role in bouncing back, its effect can be limited compared to the financial assistance provided by disaster relief initiatives and well-resourced systems of governance.

There are also calls to investigate more closely the mechanisms through which social capital operates. Wickes et al. (2015), for example, suggest that the beneficial aspects of richer and stronger social ties do not exist a priori but are manifested when community members organise and undertake specific social action on behalf of the community. Also, Uekusa (2017) discusses the resourcefulness and creativity of communities in disasters, emphasises the use of unexpected capital, and argues that the micro-level practices that contribute to community resilience should be further explored.

Most importantly, Drury (2012, 2018) notes that theories based on pre-existing bonds and networks cannot account for a very common observation in disasters, that of communities emerging despite the absence of any pre-existing bonds. The inability to explain spontaneous solidarity makes theories based on pre-existing social bonds dismiss it as a source of collective resilience. Thus, my aim in this thesis is to understand the underlying processes that lead to the emergence of psychological communities in the context of floods.

Next, I discuss emergent communities. I begin by presenting some myths that have served to pathologise the behaviour of crowds that face extreme events. Contrary to these negative representations, I continue with findings that show the resilience and pro-sociality that usually characterises the behaviour of crowds affected by disasters, discuss the emergence of such communities, and present a social psychological explanation of it.

1.1.6 Disaster behaviour in the response and recovery phases of emergencies

Disasters are usually sudden and unexpected phenomena, and people's behaviour in these incidents has mainly been conceptualised through two main frameworks, those of *vulnerability* and *resilience*.

The vulnerability framework emphasises the public's proneness to risks and psychosocial damage (Durodié & Wessely, 2002). Early theorists pathologised collective behaviour in these events by representing it as panic, disorder, and loss of concern for fellow human beings (Le Bon, 1895; Strauss, 1944). Experiencing a sudden shock was treated as an antecedent of mass panic, which, supposedly, led to the irrational behaviour of individuals. Characteristics of this behaviour were confusion, lack of critical thinking, flight, mental contagion, mass imitation, and most importantly the collapse of group bonds (Strauss, 1944; also see Bendersky, 2007). The public's proneness to these psychosocial responses, although rarer, can still be traced in some guidance and policy documents (Carter, Drury, Rubin, Williams, & Amlôt, 2014; Drury et al., 2013). Consequently, these representations can lead to vulnerability-led, top-down approaches that exclude input from the public, ignore its capacity for resilience, and limit participation (Furedi, 2008).

Pathologising theories of crowds as irrational in the face of emergencies have been largely discredited. From as early as the 1950s, Fritz and Williams (1957) have argued that behaviour in relation to disasters does not typically consist of mass panic, individualism, loss of concern for fellow human beings, conflict and looting. On the contrary, evidence shows that panic is mostly absent (e.g., Drury, Cocking, & Reicher, 2009a, 2009b; Jones, Woolven, Durodié, & Wessely, 2006). Clarke (2002) has shown that mass panic is mostly a myth sustained by mainstream pop culture or can become a

useful rhetorical device to move attention away from structural or management inadequacies and to put blame for accidents on victims and survivors.

It is now established that, generally, people usually react well when a disaster strikes (Quarantelli, 1999). The resilience framework is characterised as opposite to that of vulnerability by emphasising the public's collective capacity for organising provision of support, the resourcefulness of communities and the potential of survivors to recover from extreme incidents (Wessely, 2004, 2005). Thus, an alternative version of crowd behaviour in disasters and extreme events appears: disasters are characterised not by irrational behaviour but by *a dramatic increase in social solidarity among the affected populace during the emergency and immediate post-emergency periods* (Fritz & Williams, 1957, p. 48). Notwithstanding its advantage over the vulnerability framework and its limitations, the boundaries between the two frameworks – vulnerability and resilience – are not always that clear-cut. Furedi (2007) argues that, despite resilience being promoted in governmental discourses (see Section 1.1.3 of this chapter), the concept still operates within the vulnerability framework. As a result, vulnerability is conceived of as the defining feature of human existence, and any attempts to increase resilience operate based on people's assumed inherent vulnerability to a range of factors.

Nevertheless, it is common to find in the disaster literature observations of communities arising in disasters despite the absence of any pre-existing bonds (e.g. Clarke, 2002; Drury, 2012, 2018; Ntontis, Drury, Amlôt, Rubin, & Williams, under review: Chapter 4; 2018b: Chapter 3; Paton & Irons, 2016; Solnit, 2009; Walker-Springett et al., 2017). Emergent communities have been observed in a wide range of disasters. Solnit (2009) discussed this phenomenon in a range of disasters that span over 90 years including the 1906 San Francisco earthquake, the 1917 Halifax explosion, the

1985 Mexico City earthquake, the September 11 attacks in 2001, and the impact of Hurricane Katrina in New Orleans in 2005 (for Hurricane Katrina also see Rodriguez, Trainor, & Quarantelli, 2006). What these disasters and numerous other similar incidents have in common is the solidarity and altruism, displayed by affected and unaffected people alike, to help those in need by sharing resources, helping injured people, organising collectively to meet the extraordinary needs posed by the events themselves, and by putting their own lives at risk to help those in need. Quarantelli (1999) has argued that the groups that emerge despite the lack of any pre-existing structure, '*play crucial roles in the crisis period of a disaster*' (p. 6).

These emergent communities have been described in the disaster literature as 'communities of sufferers' (Fritz, 1965/1996), as 'therapeutic communities' (Coates, 2010; Fritz, 1965/1996), and as 'altruistic communities' (Barton, 1969) and their dynamics can be quite complex. Usually, communities are identified as entities within specific established geographical boundaries (Norris et al., 2008). However, emergent communities seem to operate over and above any geographical or pre-existing social borders and include people who have been affected in a similar way (Drury, Brown, González, & Miranda, 2016; Drury, Cocking, & Reicher, 2009b). Also, geographically-dispersed people can come to feel a sense of psychological connectedness with each other (Levine & Thompson, 2004). Therefore, a psychological approach is needed, to explain communities as psychological entities rather than as descriptions of a geographical location.

However, emergent communities do not appear across all disasters (Kaniasty & Norris, 1999). Unaffected residents who reside in the same geographical community with affected people might not feel affinity towards them, and alternatively, they might

not be perceived as parts of the communities of sufferers themselves (Ntontis et al., 2018b: Chapter 3).

Nevertheless, a primary characteristic of emergent communities is that they are only temporary and decline after the main disastrous event. This decline has been attributed to the experience of common suffering among disaster survivors (Fritz & Williams, 1957). After the initial increase in solidarity, the old problems re-emerge (Quarantelli, 1999). Moreover, not only is suffering in disasters not equally distributed across all residents (Norris & Kaniasty, 1996), but the social support that seems abundant in the early disaster phases can be unequally distributed or affected by pre-existing inequality, economic, and political factors. Thus, a key focus in this thesis is to provide a social psychological explanation of not only the emergence of psychological communities in floods, but also the investigation of their subsequent endurance or decline in the aftermath of the event.

The investigation of emergent disaster communities and of their progress following their emergence can provide useful insights into community resilience policies. Current research within the resilience framework acknowledges the ability of people to offer their support to survivors before emergency responders and health services arrive (Cole et al., 2011). Crowds have been described as ‘zero responders’ (Lemyre, 2010), and it has been suggested that emergent solidarity by uninjured bystanders and the support that stems from it should be treated as a resource rather than something to be controlled and avoided (Cocking, 2013; Drury, 2012). As already mentioned, the Sendai Framework for Disaster Risk Reduction (UNISDR, 2015) calls for the greater involvement of the public in relief and recovery activities, with evidence showing that harnessing emergent groups can be enhanced through the presence of anticipatory structures that link and involve emergent groups with existing structures

(Waldman et al., 2017). However, long-lasting disaster myths about crowds' irrationality prevent authorities involving emergent groups in disaster management and their effective collaboration with professional responders (Lorenz et al., 2017). Inability to collaborate is exacerbated by a widespread understanding of disaster organisation as based on formal structures rather than newly emergent ones (Strandh & Eklund, 2017). Notwithstanding the problems identified, there are increasing calls for involving the public in the response and recovery phases of crises. These calls are supported by research, which shows that people are not only orderly during sudden incidents but are also resilient and capable of dealing effectively with the situation.

In this sub-section, I have discussed how communities can emerge in disasters in the absence of pre-existing networks and argued that theories of resilience based on pre-existing networks cannot explain this phenomenon. However, increasingly, calls to foster community resilience suggest that spontaneous groups and the support they provide should become a core aspect of emergency management. In the following sections, I present a social psychological model that attempts to explain emergent groupness by drawing on the self-categorisation theory in social psychology (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). As I argue, self-categorisation theory can be used to provide us with useful insights into how communities respond to flooding, as well as to enrich current approaches to community resilience.

1.1.7 The social identity model of collective psychosocial resilience

The phenomenon of emergent groupness in disasters has been explained through the social identity model of collective psychosocial resilience (SIMCR; Drury, 2012, 2018; Drury et al., 2009b; Williams & Drury, 2009, 2010). The model is based on the principles of the self-categorisation theory in social psychology (SCT; Turner et al.,

1987). SCT explains the conditions under which individuals come to perceive themselves as members of a social group (Turner et al., 1987; Turner, 1985), and attempts to identify the antecedents and consequences of psychological group formation.

The self in SCT is always defined through its juxtaposition to someone else, and this can happen at different levels of abstraction (Reicher, Spears, & Haslam, 2010; Turner, 1982). People can self-define as unique individuals when they compare themselves with others they perceive as individuals, giving rise to a personal identity. Similarly, people can define themselves as group members when comparing themselves to others they perceive as group members, which is related to their social identity. In this thesis, participants' references to elements such as unity, togetherness, community spirit, and a sense of community belonging are treated as indicators of shared identities. Thus, overall, the self in SCT is fluid and variable (Turner, Oakes, Haslam, & McGarty, 1994). Accordingly, the shift from perceiving oneself as an individual among other individuals to seeing oneself as a group member among other group members will depend on the relevant social context and to the extent that a group self-categorisation will best match reality each time (Turner et al., 1987). Category salience in SCT is dependent upon fit and perceiver readiness. Fit has two aspects, comparative and normative. Comparative fit is defined by the meta-contrast principle, which suggests that, in any context, a number of stimuli are more likely to be perceived as parts of the same group when the differences between those stimuli are perceived as less than the differences between this collection of stimuli and others (Turner, 1985). Normative fit is related to the expected content and features of the available categories, and the similarities and differences between them. Last, perceiver readiness refers to the psychological predisposition of a person to use a social category as a basis for self-

identification. Taken together, *fit* and *perceiver readiness* determine the salience of categories.

SCT proposes that it is precisely the presence of a shared social identity that makes the occurrence of collective behaviour possible (Turner et al., 1987; Turner, 1982; Turner, 1985). As such, it can be used to explain not only groups located in the same physical space, but also the operation of dispersed groups and crowds that are not bound by a common physical location. A corollary that follows is that SCT can and has been used as the explanatory mechanism of collective behaviours in novel, unstructured crowd events like riots and disasters. The SIMCR has been developed to explain collective behaviour in disasters and next I explicate it further.

The SIMCR is based on the social identity model of crowd psychology (Reicher & Drury, 2010), which distinguishes between physical and psychological crowds. Physical crowds are aggregates of individuals located in the same space, whereas people in psychological crowds share a social identity. Thus, they shift from perceiving themselves as individuals or members of small groups of previously affiliated people to seeing themselves as crowd members connected by a common group-based self-definition (Turner et al., 1987). A number of criteria for category salience and collective self-categorisation have been proposed (Turner, 1982; Turner, 1985; Turner et al., 1987), one of which is ‘common fate’ (Turner, 1982). For example, analyses of crowd conflict based on a social identity approach have shown that when separate small groups experienced indiscriminate police action against them, group boundaries expanded and they came to see themselves as united against the police forces (Reicher, 1996; Stott & Drury, 2000; Stott & Reicher, 1998). SIMCR adopts a similar framework and treats common fate as an antecedent of shared social identities in explaining emergent groupness.

Disaster researchers have long recognised the relation between common suffering and shared threat and solidarity. For example, Fritz and Williams (1957) say that in disasters, *‘the sharing of a common threat to survival and the common suffering produced by the disaster tend to produce a breakdown of pre-existing social distinctions and a great outpouring of love, generosity, and altruism’* (p. 48). Common suffering can make people see each other as equals with same needs for support, which, at least for the acute emergency phase, can render pre-existing group boundaries irrelevant and mobilise altruistic behaviours (also see Clarke, 2002; Kaniasty & Norris, 1999; Solnit, 2009).

However, these conceptualisations do not explain the mechanisms through which common fate is translated to spontaneous disaster communities and subsequent solidarity behaviours. The SIMCR offers itself as a distinctive framework for understanding solidarity in disasters by placing shared social identity at the centre of the analysis.

In SIMCR, emergent communities and the solidarity that stems from them are treated as manifestations of emergent shared social identities. The wide extent of the disaster can make survivors experience a sense of common danger that may operate as comparative context and increase perceived similarity between survivors. Subsequently, the shared experience of adversity can make members of a physical crowd see themselves as sharing a group membership and transform them into a psychological crowd. There is a shift from ‘me’ in relation to ‘others’ to ‘us’ versus the disaster (Drury, 2012, 2018). The conceptualisation of emergent togetherness as a function of shared social identity to explain crowds’ behaviour in novel situations goes against pathologising crowds and individualistic models of crowd behaviour (for an extended discussion see Reicher, 1984; Reicher, 1996). Instead, it emphasises that crowd

phenomena should not be analysed as manifestations of irrationality but as intergroup instances and as reflections of social reality itself.

Apart from the antecedents, SIMCR also discusses the effects of shared social identities on behaviour, cognition, and perceptions. The emergent sense of togetherness with others is considered as a direct outcome of the shift from ‘me’ to ‘we’ and entails two key psychological transformations (*cognitive* and *relational*) (Drury, 2012, 2018; Reicher & Drury, 2010) that can explain motivations to give support.

The cognitive aspect concerns values and goals that become important to a person during the shift to a collective identity. Self-interest changes from personal to collective, rendering individuals concerned for the common good of group members. Since survival in disasters might depend upon collective effort, shared group identities can enable participants to act for the collective interest and shift their goals towards this direction.

The relational transformation concerns the ways that people behave towards others, as well as with them, and occurs with regard to solidarity and social validation. Solidarity is further deconstructed into the provision of social support, routine civility, and increased expectations of support. People are more likely to help others that they perceive to be ingroup members, often avoiding personally selfish behaviours. Additionally, survivors who share a social identity can expect to be helped by ingroup members, if they need it, can ask for the necessary support, and can expect to be supported provided they act by their groups’ norms (Drury, 2012). The link between shared group membership and higher expectations and provision of support is consistent with the premises of the social identity approach (Jetten et al., 2017). Last, shared social identity can make people adhere to norms of routine civility and orderly conduct, which

can make procedures that involve a large number of people, such as evacuations, safer and easier to navigate.

Regarding validation, in line with Turner et al. (1987), shared social identity can provide group members with a mutual definition of reality, enhance agreement between them, and develop trust in other people's judgements. As a result, shared social identities can help to minimise risks of damage to survivors, can make people regulate their behaviour and consider fellow crowd members, and can enhance survivors' wellbeing (for an extensive review of SIMCR see Drury, 2012, 2018).

The SIMCR can be considered as falling within the 'social cure' framework. The latter points to the benefits of social identities and group membership for health and wellbeing (Haslam, Jetten, Postmes, & Haslam, 2009; Jetten et al., 2017; Jetten, Haslam, Haslam, Dingle, & Jones, 2014). A core tenet of the framework is that social life is mainly organised around group memberships. The social identities stemming from those group memberships can be central to health to the extent that people identify with them. Moreover, the extent to which they affect people's health in positive or negative ways is likely to depend upon the specific conditions that characterise each group. Shared social identities can shape behaviour in accordance with specific norms associated with each group, and can affect intragroup influence. Moreover, they can be psychosocial resources to draw upon, provide the basis for providing and receiving social support (Levine, Prosser, Evans, & Reicher, 2005), and help a sense of agency and collective efficacy to develop among ingroup members (Jetten et al., 2017). The SIMCR endorses the beneficial aspects that social identities can provide for wellbeing and applies them in the context of disasters to explain the emergence of groups and subsequent collective behaviours.

There is plenty of evidence that attests to the validity of SIMCR as an explanatory concept for the antecedents and effects of emergent togetherness as a function of shared social identities in disasters (for an integrative review see Drury, 2018). Drury, Cocking, Reicher et al. (2009) created a computer simulation of a fire in an underground railway station and focused on the interplay of shared social identity among participants and provision of social support for other people. Other people were represented either as ingroup or outgroup members during the urgent evacuation process. In two studies, they found that participants' identification with the crowd was related to increased helping behaviours and reduced pushing of other characters. Moreover, increased concern for other people's needs operated as a mediating mechanism between the crowd's identification and provision of social support (Drury et al., 2009).

In the experimental studies of SIMCR I mention here, shared social identity was conceptualised in a rather static way (see Drury, 2018). Participants were assigned by the experimenters to different conditions and it was assumed that shared social identities would remain stable across the emergency. However, identities are not fixed and neither is the social context in which behaviours occur; on the contrary, identity is dynamic and can be reshaped by people's actions (e.g. Reicher, 1996; Stott & Drury, 2000). Also, as Drury (2018) notes, the experimental studies lacked ecological validity due to the presence of danger that characterises mass emergencies. In order to overcome these limitations, evidence for the operation of SIMCR was gathered from survivors of real emergencies. In a novel study, Drury, Cocking, and Reicher (2009b) analysed survivors' accounts of the London bombings in 2005 to investigate collective behaviour in the trains during the explosions. Their data consisted of secondary data available in the press and from an inquest, as well as primary data obtained through face-to-face interviews and written correspondence with survivors. They found evidence that

common fate, operating through the presence of ongoing danger, mobilised supportive behaviours between previously unaffiliated survivors, and that these behaviours were common and widespread in contrast to more selfish ones. A persistent sense of threat was also evident in both primary and secondary accounts, whereas a sense of unity was treated as evidence of a shared social identity and was much more evident compared to non-existent accounts of disunity. Shared identity was investigated in the subsequent interviews in which some participants stated that they experienced a sense of disunity and competition, and others claimed that they experienced a sense of unity and ‘we-ness’. The latter was associated with accounts of providing social support. Importantly, the sense of common fate seemed to be linked to the experience of a shared social identity.

To overcome the lack of variability in participants’ accounts, as well as the small interview sample, Drury, Cocking, and Reicher (2009a) conducted a comparative study of different mass emergencies including footballs stadium disasters, sinking ships, fires and bombings. The authors employed a similar design to the London bombings study mentioned above, and asked participants about their sense of common fate, shared social identity, and collective and individualistic behaviours. Most participants observed social support, and most interviewees who reported a sense of unity also reported providing social support (also see Drury, Novelli, & Stott, 2015). In contrast, only a small number of participants who did not report identifying with the crowd reported giving help, verifying once again the link between shared social identity and providing social support. Importantly, both the London bombings and the subsequent study showed that shared social identities did not exist before the events occurred, but emerged within the emergencies themselves and became the basis for social support.

The SIMCR has also been tested quantitatively in the context of the Chilean earthquake and tsunami of 2010. In this cross-sectional survey with 1,240 residents affected by the disaster, Drury et al. (2016) measured key variables of the SIMCR including exposure to the disaster, common fate, shared social identity, expected support, collective efficacy, providing coordinated and emotional support, as well as observed coordinated and emotional social support. They found that disaster exposure was positively related to common fate, which, in turn, was positively related to shared social identity. Shared social identity predicted provision of emotional support. Moreover, shared social identity predicted collective efficacy and providing coordinated support through expected support, which acted as a mediator. A novel aspect of the study was the inclusion of observing emotional and coordinated support in the model as the basis for offering these behaviours. Indeed, this study found that observing others' supportive behaviour predicted provision of support, with expected support acting as a mediator between observed and providing coordinated instrumental social support. Moreover, the links between observed and providing social support were higher for high identifiers compared to low identifiers. In general, the study showed the importance of both shared group membership and observations of social support for collective action in disasters, validating the hypotheses in a quantitative and previously untested manner.

The studies reported here use an array of different methodologies to show both how groups emerge and behave in disasters despite the lack of pre-existing bonds, as well as the importance of shared identities as facilitators of social support. Moreover, while previous studies have employed the concept of common fate to explain how shared adversity can enhance prosocial attitudes and supportive behaviours towards outgroup members (e.g., Vollhardt, 2009; Vollhardt & Staub, 2011), the SIMCR

provides the mechanisms and conditions under which shared adversity is translated into prosocial behaviour.

Overall, evidence attests to the usefulness of SIMCR as an explanatory model of emergent collective behaviour in disasters. Moreover, the model offers a more dynamic approach to collective resilience than social capital, since it treats it as a process rather than a static element, placing social identity processes at the centre of the analysis (Williams & Drury, 2010).

I started this chapter by identifying the significance of studying flooding due to its enormous negative impacts on communities and individual mental health outcomes and I presented one of the main strategies used to guard against its impact, namely developing community resilience. I referred to problems associated with the concept, and presented social capital, the main theoretical framework used to conceptualise community resilience, and its inability to account for emergent disaster communities often observed in disasters. Last, I have provided a social psychological framework for understanding emergent communities in disasters based on the tenets of self-categorisation theory. Next, I present the research questions that underpin the research described in this thesis, and argue that the SIMCR can provide a useful concept for understanding how communities respond to disasters and the implications of shared social identities for community resilience.

1.1.8 Research questions

My first question can be summarised as: *how are communities and community resilience with regard to flooding constructed in official UK guidance and policy?* As I mentioned earlier, there is an open debate regarding community resilience, with many different conceptualisations surrounding the definition and content of the term.

However, some researchers (e.g., Patel et al., 2017) have suggested that it might be more fruitful for policy and practice to specify the exact elements of a resilient community they are targeting. Similarly, we can observe the use of multiple types of communities in the community resilience guidance (Cabinet Office, 2011), but community resilience is mainly organised around geographical communities without further exploration of psychological communities. Considering the observations above, my investigation of this question sheds light on how communities are constructed (e.g. as agentic with the ability to self-organise, or as passive and unable to support themselves), and what types of official responses this conceptualisation allows (e.g., inclusive bottom-up or exclusionary top-down approaches). It also allows me to see whether psychological elements are used in such constructions (e.g., rationality or panic), as well as whether social identity-based explanations appear in these documents.

My second question concerns the direct application of SIMCR in flood-affected communities. Existing research based on the SIMCR has identified the antecedents and outcomes of shared social identities in the response phase of ‘sudden impact’ incidents like bombings and earthquakes (Drury et al., 2016; Drury, Cocking, & Reicher, 2009b). However, floods are ‘rising tide’ incidents, which are usually expected and there is enough time for a coordinated response. What is more, while existing literature on the SIMCR has focused on groups that emerge during the disaster, flooding affects geographical communities. It is important, then, to explore how psychological communities can emerge in areas where pre-existing networks already operate. Thus, my second question can be formulated as *whether the principles of the SIMCR apply in the case of flooding*. That is, whether members of flood-affected communities come together due to the presence of a shared fate and whether this shared social identity becomes the basis for the provision of social support between residents both in the

response and recovery phases. An extension of this question also concerns community behaviour from an intergroup perspective. Floods usually affect a specific part of the community, but not its entirety. However, the support from unaffected residents for those people who are affected is crucial in the immediate response period. Thus, I also aim to investigate *to what extent affected and non-affected members of a geographical flood-affected community become members of an emergent psychological community during a flood*. This question entails investigating the extent to which a shared social identity becomes the basis of the emergent community that includes both affected and unaffected residents, as well as mapping the antecedents of the shared social identities. Answering this question is important since no research, to date, has explored the role of shared social identity in how communities respond to flooding, and particularly in the UK context.

The third question I address in this thesis concerns the post-flood recovery period. Previous research based on the SIMCR revolves around the immediate response period, and whether an emergent social identity becomes the mechanism of the mobilisation of social support. However, as mentioned earlier, the damage of floods can extend for years after the main incident (Jermacane et al., 2018; Tempest et al., 2017). The persistence of the damage, rebuilding and distress calls for ongoing provision of social support for people who might need it. Since shared social identities have been shown to enhance wellbeing as well as mobilise social support for ingroup members, then the persistence of the emergent shared social identities is crucial to limit the extent of the damage that affected residents can suffer. Thus, my third question can be formulated as the exploration of *the extent to which shared social identities persist or decline in the aftermath of floods*. The main question is comprised of sub-questions: *does the development of emergent shared identities differ for affected and unaffected residents?*

And, which are the factors that aid in their persistence or decline? Is the presence of common fate still the sustaining factor in the long-term aftermath of floods, or do other factors take its place?

1.1.9 The case study under consideration

The fieldwork that comprises this research was conducted in the city of York, UK, which flooded in December 2015-2016, only three months after the commencement of my doctoral studies. Further details on the York floods of 2015 are provided in the methods sections of Chapters 3, 4, and 5, and are not repeated here.

In general, this was not a unique incident of flooding for the UK. Over the past few years, the country had suffered from a range of severe rainfalls and subsequent floods. For example, in 2007 the UK suffered from extreme amounts of rainfall that saw 55,000 properties flooded, 7,000 residents being rescued from floodwaters, and 13 deaths as a result (Pitt, 2008). This was the most severe flooding incident since 1947, and Britain experienced one of the most serious disruptions since World War II (Pitt, 2008), with Yorkshire being once again one of the main areas affected. Subsequently, the UK was affected by floods in 2009 when extreme rainfall affected more than 1,300 households in Cumbria, and in 2010 when more than 100 houses were affected in Cornwall (Met Office, 2012). Moreover, the country was hit in 2012 by heavy rainfall during the spring, summer, and autumn periods causing damage to more than 8,000 properties as well as physical damage including landslides (Kinver, 2013; Met Office, 2015a, 2015b), and also in 2013 when floods affected more than 1,700 houses across England. Thus, it becomes apparent that the floods in 2015 were not a unique occasion, but rather a manifestation of a recurrent problem for the UK. The commonality in

conjunction with the serious impacts of flooding make the exploration of how communities respond to it even more critical.

1.2 Research strategy: a mixed methods approach

Studying disasters can be a daunting task due to the multi-faceted nature of the phenomena. I had to deal with practical difficulties inherent in gathering data in a flood-affected community like the lack of access to local contacts as well as the absence of flooded participants due to their being rehoused due to the flood damage. I also faced a literature gap whereby emergent social identity processes had not been investigated in the context of a pre-existing geographical community and from the scope of both affected and unaffected residents. Moreover, I took up the task of looking into constructions of community resilience in official guidance documents. Considering these matters, I decided that using a single methodological approach would not be adequate since I had to draw on a variety of methodological principles and analytical techniques that differed epistemologically.

Chapter 2 presents a qualitative analysis of how community resilience is constructed in official guidance documents. In order to answer my questions, I considered the employment of a social constructionist approach informed by the tenets of critical discursive psychology (Edley, 2001; Wetherell, 1998) to be a compatible approach. A discourse-analytic framework has already been used to investigate elements of crowd psychology in official guidance (Drury et al., 2013). In my case, critical discursive psychology would allow me to explore how communities and their resilience are constructed at a micro-level with regard to how subsects, events and identities are constructed and positioned in the text, as well as at a macro-level by focusing on how specific ideological practices are reproduced and established.

Chapter 3 reports a qualitative, semi-structured interview study with residents of York, UK, conducted around two months after the floods (for further details, see the methods section of Chapter 3). The interviews allowed me to explore the emergence of communities during the floods, and how this emergent groupness became the basis of different types of social support and psychological transformations. At a practical level, discussions with people from the local community would also allow me to get information on the situation, as well as set up links with the community. Adding to a more personal participation in research, semi-structured interviews allowed me to investigate the subjective meanings of the floods and the community for participants; I had formed the opinion that quantitative research would not be able to offer the depth of meanings that I sought (Banister, Urman, Parker, Taylor, & Tindall, 1994). Last, the semi-structured nature of the interviews also allowed me to explore my ideas, but at the same time allowed for flexibility by allowing participants to express unanticipated insights. Since community responses to flooding in the UK had not been explored before, and especially from a social identity perspective, I used thematic analysis to analyse the interviews (Braun & Clarke, 2006). This would allow me to identify major themes in participants' discourses that were related to my research questions. I also used discourse analysis (Potter, 1996; Potter & Wetherell, 1987), since I was interested in the ways that residents construct community spirit and position themselves and other groups within it.

Like Chapter 3, Chapter 4 also reports a qualitative study based on semi-structured interviews that I conducted 15 months after the floods with residents whose homes had been flooded or who were affected indirectly. The purpose of the study was to investigate the factors that aid the persistence or decline of emergent communities in the recovery period following the main flood event. The semi-structured interview

design allowed me to explore residents' perceptions of whether and how their sense of community changed following the floods, with a focus on the variability within these accounts. Since the themes I was interested in were preconceived prior to the analysis, I employed a theoretical thematic analysis (Braun & Clarke, 2006).

In Chapter 5, I describe how I employed a quantitative survey design to explore social identity processes in community responses to flooding. More specifically, my aim was to apply the framework of SIMCR to a large population around the flood-affected area by using key measures that have been utilised in previous research. I tested specific hypotheses, like the positive relation between common fate and shared social identity, the effects of shared social identity on collective efficacy, wellbeing, and social support being provided, as well as the mediating roles of shared goals and expected support. Drawing on previous research (Drury et al., 2016), I also tested how observing other community members offering social support would mobilise participants to engage in similar actions. The statistical approach also allowed me to compare relations between flooded and unaffected residents, as well as investigate differences in key variables across different time points following the floods. Last, this methodological framework allowed me to test novel ideas previously identified in the interview studies such as the role of communication between community members in sustaining the sense of togetherness in the community. Thus, using quantitative methods I could both replicate previous findings of the SIMCR, as well as test them in a different type of disaster. Moreover, I had the opportunity to extend the theoretical framework, since the question of how emergent shared identities in disasters change over time, as well as their effects on psychosocial wellbeing had not been explored before.

It becomes apparent from this summary that, for the purposes of my thesis, I drew on a variety of methodological principles and techniques, which included collecting and

analysing both quantitative and qualitative data, that differed regarding their respective epistemologies. Critics can argue that positivist, quantitative approaches should not be used in conjunction with social constructionist approaches due to the incompatibility of the stance they adopt towards the nature of phenomena and psychological entities. For example, a positivist, quantitative social psychology may treat identity as a ‘real’ entity that can be unearthed and measured, while social constructionists will emphasise the interactional performances and constructions of identities in discourse (Tuffin, 2005). Notwithstanding the epistemological differences of the approaches I adopted, I argue that different methods and epistemological backgrounds can provide us with different, but equally useful, insights on the questions under exploration by acting in a complementary way. Moreover, since each method comes with its own limitations, a mixed-methods approach can cover the weaknesses of each respective methodology (McGrath, 1981), provided that the differences and the limitations of each approach be acknowledged.

The interviews and subsequent thematic analysis helped to identify common patterns in perceptions of the response of the community as well as its subsequent decline and persistence, and to explore variability in their accounts. Moreover, the social constructionist approach allowed me to see how community members were constructed in participants’ discourse in terms of the social action that such accounts performed, as well the ways that emergency responders, communities and their resilience are constructed in official guidance. The surveys inevitably belong to the positivist approach and aimed to investigate trends and relations across standardised variables, as hypothesised in the theoretical tenets of the SCT and the SIMCR. Rather than issues of social construction and variability, surveys allowed me to sample large numbers of residents, which is impossible through interview studies. The use of a mixed

methods approach served to cover the limitations of each specific method by providing data of different quality and nature. Surveys helped to overcome problems posed by small samples, snowballing samples, as well as by participants providing the interviewer with the expected answers that can be found in interview studies. Interviews and subsequent qualitative analyses offered the variability and in-depth investigation that surveys usually lack. The combination of both approaches helped me to test previous and present findings in both qualitative and quantitative ways, ensuring their validity. Moreover, it allowed for quantitative testing of ideas that came through the participants' accounts in the interview studies (e.g., the role of communication in sustaining a sense of unity). Thus, by recognising the different epistemological backgrounds entailed in the methodological and analytical approaches I followed for my data collection and analysis, I consider that the mixed-methods background served well in facilitating and, at the same time, offered balance in both openness as well as control over the data, complemented each method's weaknesses and provided unique insights from multiple perspectives into the nature of social identities in communities that respond in disasters.

1.3 Thesis overview

In this section, I provide an overview of the chapters/papers that comprise this thesis. In Chapter 2, I focus on how community resilience in relation to floods is constructed in official UK guidance and policy documents. Previous research has addressed how crowds and their resilience are represented in official documents, as well as how psychology is used to support such construals (Carter, Drury, Rubin, Williams, & Amlôt, 2013; Drury et al., 2013). However, at the time when I began my research, how community resilience and communities themselves are constructed in UK policy

and guidance documents and how psychology is manifested in those constructions remained an unanswered question. I review different approaches to collective and community resilience in disasters and discuss criticisms associated with the concept. I take on board the recommendation by Patel et al. (2017) about the need to focus on the specific core elements of community resilience, and explore how it is manifested in official documents. I show that there is a variety of different conceptualisations of community resilience. Some represent resilience as a static, reified concept that can be manipulated by the authorities, or simply as the opposite of vulnerability. I also show a pattern of circularity, in which the concept of resilience is used as the explanatory factor of what makes a community resilient. I also show that some documents use more complex representations of resilience and target specific psychological, cognitive, and relational concepts, and avoid discussing the concept as reified or static. Variability exists not only with regard to community resilience but also about how communities themselves are represented. I show that, overall, communities are depicted as rational, and notions of irrationality like panic are not observed, in contrast to representations of other kinds of emergencies. However, sometimes communities are depicted as agentic and active contributors to their resilience, whereas other documents promote a more passive representation of communities and their resilience as subject to initiatives from authorities.

Chapters 3, 4, and 5 focus on the fieldwork I conducted in the city of York, UK, to explore social identity processes in a flooded community. Chapter 3 is an exploratory interview study with 17 residents of York a few weeks after the floods. My aim through the interviews was to investigate whether social identity processes observed in bombings (Drury, Cocking, & Reicher, 2009b), earthquakes (Drury et al., 2016) and other disasters (Drury, Cocking, & Reicher, 2009a) also occur during the response and

early recovery phase that follow flooding. My focus was on the emergence of shared social identities and their relation to the mobilisation and provision of social support for those people who were affected. However, I also wanted to extend previous findings by identifying whether non-affected residents felt themselves to be members of the psychological community that emerged during the floods, and which were the antecedents of such shared self-categorisations. In my analysis of the interview material, I describe several factors that contribute to the shared sense of community that emerged during the floods, and discuss the practical, emotional, and coordinated support that was provided.

Chapter 4 addresses how emergent shared social identities persist or decline following a flood. The interview study with 19 residents was conducted around 15 months after the floods, and my aim was to identify the factors that contribute to the persistence or decline of the emergent togetherness. As I mentioned earlier, the damage caused by floods can extend for years after the primary incident. There was a need to investigate whether shared identities and the support that comes with them persist or decline through time. This question was important both at a practical level, since the persistence of a psychological sense of community can positively contribute to a sense of community, as well as theoretically because the question of how emergent groups change over time has not been addressed in the SIMCR. My analysis shows that the sense of togetherness can decline due to the absence of perceived common fate, or due to the change in context which can lead to changes in the self-categorisations of participants. However, I also show that groups can persist due to a variety of reasons including communication between community members and the ongoing presence of social support, or, strategically, through the organisation of anniversaries.

Chapter 5 is based on three cross-sectional surveys conducted in York at 8, 15, and 21 months after the floods with 217, 184, and 136 participants respectively. One of my primary concerns in the studies covered by this chapter was to replicate statistically previous findings of the SIMCR in the context of flood recovery. Having the social identity model of solidarity in disasters (Drury et al., 2016) in mind, I ran a path model in which I tested the relationships between common fate and shared social identity. I also investigated the effects of shared social identity and observed social support on resilience outcomes including collective efficacy and provided emotional and collective support and tested the mediating role of expected support and shared goals. Chapter 5 also includes a cross-sectional comparison of common fate and shared social identity in participants at different time points after the floods, as well as a comparison of the strength of this relationship for the 3 post-flood time points. Chapter 5 concludes with an analysis of how communication helps to sustain the sense of togetherness in the community over and above the effects of common fate 21 months after the floods and an analysis of how shared social identities that emerge through common fate positively affect wellbeing through participants expecting support.

Finally, in Chapter 6, I present a general summary of my findings and discuss their theoretical and practical implications. I conclude by addressing the limitations of my studies and by proposing avenues for future research.

Chapter 2

Paper 1 – Community resilience and flooding in UK guidance: a critical review of concepts, definitions, and their implications

Cite as:

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2.1. Abstract

Community resilience is one of the main strategies that UK governments employ to deal with the impact of floods. In this paper, we analyse how community resilience is used in 28 UK guidance documents that refer to floods and discuss the benefits and drawbacks of different conceptualizations. We show that some documents represent community resilience as the absence of illness, as the opposite of vulnerability, as a static and unchanging element, or in a circular way as both a cause and an outcome. By contrast, some documents avoid generalisations and focus more specifically on the concept's behavioural, relational, cognitive, and psychological aspects. We discuss the implications of different conceptualisations of community resilience for its operationalisation by policymakers and practitioners.

2.2. Introduction

Flooding is a major issue in the UK (Cabinet Office, 2015), with more than 5 million people in 2.4 million properties at risk (WHO Regional Office for Europe, 2013). Floods affect geographical communities and can cause displacement, in contrast to other major incidents such as bombings of public places, which are most likely to affect people who are away from their homes. The damage of floods can persist for a long time after the waters recede through the presence of secondary stressors (Stanke, Murray, Amlôt, Nurse, & Williams, 2012) – problems which are not direct results of the disaster, but are ‘following from and are consequential on what has taken place’ (Department of Health, 2009, p. 20).

UK policy guidelines and guidance documents use of the concept of community resilience to design interventions to assist people and agencies to deal with the impact of flooding. However, despite the widespread use of the term, there is an ongoing debate as to what is community resilience, with authors of research papers and authors of government policy not having reached a definitive conclusion (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). Some have pointed to the concept’s underdevelopment (Furedi, 2008), have highlighted the gaps in its implementation (White & O’Hare, 2014), and have systematically analysed its common elements, suggesting that a focus on these underlying factors may be more fruitful for policy and research (Patel, Rogers, Amlôt, & Rubin, 2017).

The central question of this paper is to investigate how community resilience in relation to floods is discussed in official documents. Our focus is on flooding, both because of its importance as a national risk, and in terms of its implications for policy and practice. Because community resilience is a heavily debated concept with implications for practice, for this paper, we adopt discourse analysis as a method to

investigate how community resilience is constructed in guidance documents. We discuss what community resilience ‘is’ for different authors, what are the implications of different conceptualizations for the ‘nature’ of the communities discussed, and what issues might arise from different representations of community resilience for the relations between communities and practitioners, as well as for policy and practice. We also focus on how authors of official documents use psychological concepts when they discuss community resilience. Flooding represents the most common and a special case for study since it requires of communities to mobilise in response and recovery. Thus, we consider an analysis of how the psychology and subsequent behaviours and capabilities of communities in disasters are represented in those documents to be crucial.

2.2.1. Community resilience and disasters

The concept of resilience can be traced back to the physical sciences (Bodin & Wiman, 2004). In the last two decades, ‘resilience has become increasingly central to international and domestic policy-making ... the ‘guiding principle’ of policy governance ... [and] the top priority for the sustainable development and international development aid agenda’ (Chandler, 2014b, p. 1). Social scientists have applied it to refer to people’s (e.g. Bonanno, 2004), crowds’ (e.g. Drury, Cocking & Reicher, 2009b; Drury, Novelli, & Stott, 2015; Drury, 2012; Williams & Drury, 2009) and communities’ (e.g. Cagney, Sterrett, Benz, & Tompson, 2016; Wickes, Zahnow, Taylor, & Piquero, 2015) effective adaptation and functioning despite adversity. ‘Collective psychosocial resilience’ is a related concept which refers to the ways in which people in crowds come to provide and expect cohesion, solidarity, coordination and social support (Drury et al., 2009b; Williams & Drury, 2009), whereas community resilience focuses on how

communities make effective use of their resources to return to positive trajectories of recovery and functioning (Norris et al., 2008).

Research into the psychology and sociology of disasters provides the evidence and theories to understand how and why behaviours and cognitions associated with collective as well as community resilience arise. Aspects of it have focused on the ways in which people come together and offer support to each other in the face of adversity (Clarke, 2002; Drury, Brown, González, & Miranda, 2016; Drury et al., 2009; Fritz & Williams, 1957; Kaniasty & Norris, 1999; Solnit, 2009), proposing various contextual conditions that assist people, groups, and organisations to develop their resilience. Resilience has been investigated through various conceptual prisms; some researchers approach resilience through the notion of social capital (e.g., Fielding & Anderson, 2008) – the pre-existing networks within communities that are mobilised during an emergency to assist in providing support – while others have focused on enhancing community resilience through building social capacity and community engagement (Morton & Lurie, 2013). Other authors (e.g. Drury, 2012; Drury et al., 2009b; Williams & Drury, 2009, 2010, 2011; Ntontis et al., under review: Chapter 4; 2018b: Chapter 3) have argued that emergent groupness and solidarity is due to survivors sharing a sense of *common fate*, which creates shared social identity. Inevitably, different definitions of resilience will have different implications for the practises and assumptions that agencies and governments will follow to achieve the sought outcomes.

2.2.2. A definitional issue

In terms of how we define resilience in general and community resilience in particular, there is no agreement between researchers, policymakers and practitioners (e.g. Manyena, 2006; Norris et al., 2008; Patel et al., 2017, Furedi, 2008; White &

O'Hare, 2014), which makes the concept's operationalisation more difficult. Resilience is used very broadly and may be analysed at the levels of persons, groups, communities, organisations, and states. Norris et al. (2008) state that community resilience is better conceptualised as an ability or process rather than as an outcome; it is better construed as the ability to adapt rather than remain stable. Manyena (2006) treats resilience as a quality or outcome which depends upon the social and economic processes that foster it.

There have been multiple approaches to resilience within the field of flood risk management as well. They vary from adopting a narrower focus on preserving the existent stability of buildings, to more flexible conceptualisations that place more weight on societal factors and accept transformation and change (White & O'Hare, 2014).

Our survey of the literature shows that the concept of resilience is used in relation to policy, to emergency preparedness and response, and in respect of how different people cope with disasters and adversity. Some analyses focus on the availability of resources and capacities that each level possesses that lead to their adaptation. In the opinion of Norris et al. (2008), there are four primary sets of adaptive capacities: economic development, the presence of social capital, the availability of information and proper communication, and the competence, or agency, of communities. Patel et al. (2017), in their systematic review of definitions of community resilience in the academic literature, find that the concept is discussed in a multitude of ways, often represented as the absence of vulnerability, a static characteristic or innate ability of a community, or a more complex process that requires various other sets of actions and behaviours. They identify nine shared core elements, namely: local knowledge; community networks and relationships; communication; health; governance and leadership; resources; economic investment; preparedness; and the mental outlook of

the community. They suggest that it might be more fruitful for researchers and policymakers to be precise about the exact elements of resilience to which they refer rather than use the broad and imprecise term of ‘community resilience’ in discussions. In line with the definition of Norris et al. (2008), defining community resilience as a process helps us to shift our gaze from a broad notion of ‘resilience’ that lacks focus, to the specific capacities and activities or behaviours that make a community able to function and adapt to change after an adverse event, which can also assist in the operationalisation of the concept.

2.2.3. Criticisms of (community) resilience

The concept of resilience has not escaped criticisms. Chandler (2013) discusses how the representation of people as embedded within interconnected systems gives rise to ‘resilience ethics’, calling people to become more reflexive and self-aware. However, suggesting that problems are societal and stem from lifestyle choices can be used as a means for political and economic factors to avoid being held responsible, attributing responsibility instead to individuals. With regard to flood risk management, the construction of risk as an inevitable part of everyday life and the need for ‘developing resilience’ as a solution has been described as a way for authorities and agencies to avoid accusations for failing to avert avoidable risks (White & Richards, 2007), as well as for transferring the responsibility for risk governance from the state towards communities and the private sector (White & O’Hare, 2014; Chandler, 2014a, 2014b).

Another criticism relates to the tendency to link resilience with vulnerability. As Furedi (2008) has emphasized, vulnerability is treated as the defining condition of life, as well as the natural response to adversity. Thus, resilience is treated by policymakers as an antidote and countermeasure to inherent vulnerability (Waller, 2001). However,

resilience should not be treated as merely the absence of vulnerability, risk factors, or disorder (Almedom & Glandon, 2007; Manyena, 2006; Williams & Drury, 2011); people can temporarily be distressed in the aftermath of an adverse event, which is a natural response to a shock. However, the presence of such reactions does not denote that survivors are not resilient and should be treated in pathological terms. On the contrary, the concept of resilience should be understood as accepting that distress is a natural response to trauma, which is followed by recovery through providing effective support (Williams & Drury, 2009, 2011) (this definition is also evident in NATO's (NATO Joint Medical Committee, 2009) guidance for psychosocial and mental health care for those affected by disasters). Nevertheless, similar to resilience, vulnerability remains a vague and broad concept with a great array of definitions offered with regard to its conceptualisation. Its breadth is accompanied by a lack of widely accepted indicators or methods of measurement, and a lack of a firm theoretical background (Bohle, Downing & Watts, 1994). Thus, in our opinion, it is often misused or misunderstood.

All too often, people's resilience is ignored within considerations of their vulnerability, and is treated as an exception to the rule, while their assumed inability to deal effectively with adversity is given too much emphasis. Researchers have pointed out that the public is often depicted as a passive receiver of the wisdom of enlightened expert communities (Durodie, 2003).

In contrast to such negative representations is a body of research that acknowledges people's capacity to act adaptively during adversity, treats populations' agency and engagement between people and other agencies as a prerequisite for their resilience (Durodie, 2003; Challies, Newig, Thaler, Kochskämper, & Levin-Keitel, 2016; Houston, Spialek, Cox, Greenwood & First, 2014), and accepts the public as a

‘resource’ rather than a problem (Drury, 2012). Moreover, Furedi (2008) argues that resilience can be encouraged and cultivated, but cannot be taught, with technocratic top-down approaches limiting local initiatives and not engaging communities. This ambivalence with regard to public vulnerability or resilience is also visible in guidance documents on emergency response, in which the public is sometimes depicted as possessing rationality, agency, and the ability to give help, while in others it is depicted as passive and as secondary to that of the emergency services (Drury, Novelli, & Stott, 2013).

2.2.4. The present study

Community resilience is one of the strategies of UK governments for dealing with the impact of floods. As we have shown, resilience is a widespread yet heavily debated concept, with issues regarding its definition and implementation, heavy reliance on its use in policy, as well as its uncertain relationship with other concepts like vulnerability. However, floods pose a great threat for the UK, and the debate surrounding the concept, as well as recurrent calls for communities to become more resilient inevitably invite us to focus in this paper on the ways that the concept is employed in current UK guidance documents. Using discourse analysis, in this paper we report our investigation of different conceptualizations of community resilience for different authors, what is implied in such conceptualizations about the psychological, relational, and behavioural aspects of the public and of professional groups, as well as about the relations between them.

2.3. Method

2.3.1. Search process

We used three different approaches to identify the relevant documents: Internet search, previous analyses, and suggestions from experts on the field. First, we investigated previous similar research on the UK's emergency planning guidance (Drury et al., 2013), as well as their reference lists. This search was complemented through the use of Google's search engine to identify relevant documents in the public domain, using the keywords: *floods*, *floods England*, *floods Wales*, *Floods Scotland*, *floods Ireland*, *floods UK*, *resilience*, *disaster resilience*, *community resilience*, *emergency preparedness*, *civil contingencies*, *flood response*. The first search returned a very high number of webpages, but after the first 20 pages we started seeing replications but no further new documents, so we set this as the limit to our search. However, to verify that we did not omit important documents, we used the 'filetype:pdf' command using the same keywords to identify pdf files that we could have missed through our first Internet search. Through the first search we identified 71 documents.

Next, we applied our inclusion criteria and selected those documents that were: 1. guidance documents; 2. issued by a UK governmental department or agency (e.g. Environment Agency); 3. included reference to floods; and 4. explicitly referred to 'community resilience'. Twenty-four of our documents met these criteria. We selected two people whom we considered to be experts in the field of extreme events on the basis of their work for government departments and agencies in the UK. We asked each person to assess the adequacy of our search and list of documents and to point us to any documents that met our inclusion criteria and which we might have missed otherwise. They drew to our attention four further documents that our search had omitted. Consequently, our final list comprised 28 documents and is summarised in Table 2.1.

The publication dates ranged between 2006 and 2016. We did not set a cut-off date in our initial search because guideline documents of this nature are regularly revised and updated. Since our aim was to examine only contemporary usage, we included only the most up-to-date version of each of the documents reviewed.

Table 2.1. Details of guidance documents used in the analysis

Source	Year	Document
Cabinet Office	2006	<i>Emergency Preparedness: Non Statutory Guidance accompanying the Civil Contingencies Act 2004</i>
Cabinet Office	2011	<i>Strategic National Framework on Community Resilience</i>
Cabinet Office	2013c	<i>Emergency Response and Recovery: Non Statutory Guidance accompanying the Civil Contingencies Act 2004</i>
Cabinet Office	2013a	<i>Expectations and Indicators of Good Practice Set for Category 1 and 2 Responders</i>
Cabinet Office	2013b	<i>Responding to Emergencies. The UK Central Government Response. Concept of Operations</i>
Cabinet Office	2016a	<i>Preparing for Emergencies: Guide for Communities</i>
Cabinet Office	2016b	<i>Roles, Responsibilities and Partnerships to build Resilient Communities</i>
Cabinet Office	2016c	<i>Steps for increasing Community Resilience</i>
Cabinet Office	2016d	<i>The Context for Community Resilience</i>
Civil Contingencies Secretariat	2013	<i>The Role of Local Resilience Forums: A Reference Document</i>
Committee on Climate Change	2015	<i>Progress in Preparing for Climate Change. 2015 Report to Parliament</i>
Committee on Climate Change	2016	<i>UK Climate Change Risk Assessment 2017: Synthesis Report: Priorities for the Next Five Years</i>
DEFRA	2014	<i>The National Flood Emergency Framework for England</i>
DEFRA	2015	<i>Flooding in England: Lead Government Department Plan</i>
Department of Health	2009	<i>NHS Emergency Planning Guidance: Planning for the Psychosocial and Mental Health Care of People affected by Major Incidents and Disasters: Interim National Strategic Guidance</i>
Environment Agency	2015	<i>Under the Weather. Improving Health, Wellbeing and Resilience in a Changing</i>

		<i>Climate</i>
Healthcare System Adaptation Report Working Group	2015	<i>Adaptation Report for the Healthcare System 2015</i>
HM Government	2013	<i>The National Adaptation Programme: Making the Country Resilient to a Changing Climate</i>
HM Government	2015a	<i>Government response to the Committee on Climate Change: Progress on Meeting Carbon Budgets and Preparing for Climate Change Summary Document</i>
HM Government	2015b	<i>Meeting Carbon Budgets – 2015 Progress Report to Parliament: Government Response to the Seventh Annual Progress Report of the Committee on Climate Change</i>
HM Government	2016	<i>National Flood Resilience Review</i>
London Resilience Partnership	2014	<i>Communicating with the Public Framework v1.</i>
London Resilience Partnership	2015	<i>Strategic Flood Response Framework</i>
Department of the Environment, Heritage and Local Government	2013	<i>A Framework for Major Emergency Management: Guidance Document 11: A Guide to Flood Emergencies</i>
NHS England	2014	<i>NHS England Emergency Preparedness, Resilience and Response (EPRR): Planning for the Management of Self-presenting Patients in Healthcare Settings</i>
Sustainable Development Unit	2014a	<i>Adaptation to Climate Change Planning Guidance for Health and Social Care organisations.</i>
Sustainable Development Unit	2014b	<i>Module: Healthy, Sustainable and Resilient Communities</i>
Sustainable Development Unit	2014c	<i>Sustainable, Resilient, Healthy People & Places</i>

2.3.2. Analytic procedure

We chose discourse analysis as a method to analyse the textual discourses in the guideline documents, in line with previous similar research (e.g. Drury et al., 2013). Specifically, we adopted the method proposed by critical discursive psychology (CDP) (Edley, 2001; Wetherell, 1998), which draws from the discourse-analytic tradition in social psychology (Edwards & Potter, 1992; Potter, 1996; Potter & Wetherell, 1987) to argue for the constitutive and action-oriented character of language. CDP analyses data at both a micro- and macro-level. At a micro-level, CDP draws from discursive

psychology and adopts a bottom-up approach to investigate the immediate text with regard to how subjects are positioned, how accountability is managed, as well as how different versions of identities and events are created and represented as factual. At a macro-perspective CDP investigates how broader ideological/cultural resources (interpretative repertoires) shape the various different ways of talking available in society (e.g. Bozatzis, 2009; Edley, 2001; Wetherell, 1998) and aid in the ideological establishment and reproduction of specific practices. Thus, the variability observed in different constructions of community resilience is not treated as a problem to be eliminated from analysis, but rather is a feature of interest. We investigate the different ways in which community resilience is constructed in the local context of the guidance documents, how these constructions are linked to broader ways of talking about resilience and communities, how psychological concepts are mobilised to assist in these constructions, and, finally, we examine the differing implications of different definitions for policy and practice.

We used QSR International's NVivo 11 qualitative data analysis software to code the contents of the documents. All 28 documents were imported and were subjected to word search, identifying instances in which the terms *resilient*, *resilience* and *community resilience* were mentioned. The amount of relevant text varied across documents, ranging from a single sentence or paragraph discussing resilience, to guidance documents exclusively focusing on community resilience.

In the first part of our analysis, we focus on documents that discuss community resilience as a single, reified concept. By 'reification', we mean the ways that organisations treat resilience as a concrete, material thing, which individual persons and groups (e.g., emergency responders) can act upon. In the second part, we present extracts from documents that elaborate community resilience in terms of relational,

behavioural and psychological processes. Our aim is not to generalise and criticise the quality of the documents as a whole, but rather to present any variability in how community resilience is described, and what implications different constructions might have in relations between public and government/professional groups, and for preparing for and responding to flooding.

2.4. Results

2.4.1. Simple representations of resilience

Researchers have suggested that it is inappropriate to equate resilience to the absence of risk and vulnerability (Furedi, 2008; Almedom & Glandon, 2007; Norris et al., 2008; Williams & Drury, 2011). However, it remains a common conceptualisation of resilience in guidance documents. The first example is an extract from an HM Government document entitled ‘Government response to the Committee on Climate Change’ (2015a: 46):

Extract 1

Furthermore, in line with the localism agenda it is for local authorities to take a view on the progress they are making in increasing resilience and reducing their communities’ vulnerability to the impacts of extreme weather.

In this extract, the document cites as a warrant the ‘localism’ agenda, an aspect of the ‘Big Society’ government project (Cabinet Office, 2011), to allocate some of the responsibility for assessing communities’ vulnerability and resilience away from central government and towards local authorities while positioning the former as the organisation in control. Resilience is placed next to vulnerability as opposites,

suggesting a hydraulic relationship – the more the community’s resilience is increased, the more its vulnerability to impacts is decreased. Similar to Drury et al.’s (2013) observation in the context of civil contingencies more generally, communities appear as relatively passive entities and their resilience is portrayed as relying upon the actions of the local authorities, which appear as higher order, external agents.

Representations of community resilience of this nature are not uncommon in the guidance documents in our sample and they appear to create a top-down hierarchy. The HM Government’s ‘National Adaptation Programme’ (2013: 46) states, for example:

Extract 2

Objective 11: To reduce the risk of death and illness associated with severe weather events and climate change and increase preparedness and resilience to the impacts on public health. [...] Objective 13: To minimise the impacts of climate change on vulnerable groups in society by strengthening their resilience to better prepare for, respond to and recover from future climate risk.’

Here, the National Adaption Programme appears as a protector of vulnerable groups, using ‘resilience’ as a remedy against vulnerability. Resilience is associated with preparedness, response, and recovery, considering the Government as an agent, and ‘vulnerable groups’ as passive receivers. Representing resilience as the opposite of vulnerability suggests a hydraulic and oppositional relationship, with resilience being represented an element that can be ‘increased’ and ‘strengthened’ by external agents, or as a construct, the properties of which can be precisely measured. These representations make it harder for practitioners to implement successful policies and practice, since those construals are often very broad and lack focus on the specific elements for which

an intervention might be required.

Other documents attempt to make the concept more practical by discussing the ways in which the concept can be applied in communities. The following extracts come from the Cabinet Office's 'Emergency Preparedness' (2006: 21 and 2006: 4 respectively) guidance:

Extract 3

Building individual and community resilience:

- *Promoting resilience messages and materials;*
- *Individual and community resilience building;*
- *Encouraging local participation in resilience activities;*
- *Developing individual resilience through duty service delivery.*

And:

Extract 4

The duty to make the public aware of the risks of emergencies does not extend to a requirement to assist individuals/organisations in developing community resilience or to promote community resilience. However, responders should recognise the benefits of engaging with the community and promoting individual and community resilience.

Here, resilience appears as a unitary element that can be 'promoted', 'built', 'developed', and 'enhanced', or as an outcome ('resilience through duty service delivery'). Some documents mention how volunteers (in extract 3) and responders (in

extract 4) can assist communities in making communities more resilient. Also, we note that, on some occasions, the word ‘resilience’ is used as an adjective to accompany specific objects and actions (‘resilience messages and materials’, ‘resilience activities’). However, constructions of this nature adopt the term ‘resilience’ in an attempt to describe the same outcome – how to enhance resilience – and, say little about the content and processes through which communities become and sustain their resilience in the first place. The benefits of community engagement are also mentioned, assuming communities have abilities to come into contact with the responders. However, there is no reference to communication as a two-way process; instead, communities are depicted as passive receivers of ‘resilience’ from the side of the authorities, while their possible role is not specified.

In other instances, we notice circularity in how resilience is conceptualised; some documents attempt to explicate some of the processes that comprise resilience, but also attempt to explain a concept by adopting the same concept as an explanation. The first extract comes from the Cabinet Office’s (2016d: 1) ‘The Context of Community Resilience’:

Extract 5

Community resilience is about empowering individuals, businesses and community groups to:

- *Take collective action to both increase their own resilience and that of others*
- *Come together to identify and support vulnerable individuals*
- *Take responsibility for the promotion of individual and business resilience*

And, similarly, from the Cabinet Office's 'Emergency Response and Recovery' (2013c: 46):

Extract 6

The Civil Contingencies Secretariat leads a programme of work to support the building of community, family and individual resilience, working with government departments, public, private and voluntary sector organisations to:

- *Increase individual, family and community resilience against all threats and hazards;*
- *Support and enable existing community resilience activity, sharing these successful models in other areas;*
- *Support effective dialogue between the community and the emergency response practitioners supporting them;*
- *Identify and bust barriers to participation;*
- *Raise awareness and understanding of risk and local emergency response capability in order to motivate and sustain self-resilience;*
- *And evaluate the success and articulate the benefits of community resilience.*

Extract 5 discusses community resilience through the prism of individual and collective 'empowerment'. Community resilience appears as an outcome of 'collective action' and of the provision of social support, while being framed as a responsibility of community groups. However, in extract 5, we notice the same notion of circularity, in which community resilience is explained through resilience itself. However, no attention is paid to the more specific and practical pathways that define what is a resilient community. This description is assisted by the consideration of resilience as a reified

element, which can be ‘promoted’ and ‘increased’. Similarly, resilience in extract 6 is constructed as a reified element that can be ‘built’, ‘increased’, ‘supported and enabled’, ‘evaluated’, ‘motivated’ and ‘sustained’. However, it is important to note that extract 6 also refers to certain relational and cognitive processes that can assist in ‘building’ resilience. According to the document, a resilient community needs intergroup communication, as well as risk-awareness. But, despite it capturing some of the processes of community resilience, the document still reifies the concept, sometimes falls back to treating resilience as an outcome, or uses it in a circular way, with no mentioning on which specific sub-elements practitioners and policymakers should focus to improve the preparedness and responses of authorities, emergency services and communities.

In the second section of the analysis, we present examples from guidance documents that focus on the elements that constitute community resilience and that elaborate some underlying processes.

2.4.2. Unpacking the underlying processes of community resilience

Some documents discuss the key features of ‘resilient communities’. The first extract comes from the Cabinet Office’s ‘Strategic National Framework on Community Resilience’ (2011: 15), and the second from the Department of Health’s ‘NHS Emergency Planning Guidance’ (2009: 50):

Extract 7

Key features of a resilient community

Communities may not have all or even many of these features, but these features have been seen in the communities we have engaged with who have undertaken

resilience planning to date:

- *People in resilient communities use their existing skills, knowledge and resources to prepare for, and deal with, the consequences of emergencies or major incidents. They adapt their everyday skills and use them in extraordinary circumstances.*
- *People in resilient communities are aware of the risks that may affect them. They understand the links between risks assessed at a national level and those that exist in their local area, and how this might make them vulnerable. This helps them to take action to prepare for the consequences of emergencies.*
- *The resilient community has a champion, someone who communicates the benefits of community resilience to the wider community. Community resilience champions use their skills and enthusiasm to motivate and encourage others to get involved and stay involved and are recognised as trusted figures by the community.*
- *Resilient communities work in partnership with the emergency services, their local authority and other relevant organisations before, during and after an emergency. These relationships ensure that community resilience activities complement the work of the emergency services and can be undertaken safely.*
- *Resilient communities consist of resilient individuals who have taken steps to make their homes and families more resilient. Resilient individuals are aware of their skills, experience and resources and how to deploy these to best effect during an emergency.*
- *Members of resilient communities are actively involved in influencing and making decisions affecting them. They take an interest in their environment and act in the interest of the community to protect assets and facilities.*

And:

Extract 8

Research shows that the most substantial aspects of psychosocial resilience include:

- *The abilities of people to accept and use social support;*
- *The availability of social support;*
- *A staunch acceptance of reality;*
- *Belief in oneself buttressed by strongly held values; and*
- *The ability to improvise.*

The first extract refers specifically to ‘community resilience’, whereas the second focuses on ‘psychosocial resilience’ in the context of disasters, including floods. Neither extract discusses resilience per se, but rather its core ‘aspects’ and ‘features’. They are comprised of affective, relational, behavioural and cognitive elements. In terms of implicit psychologies, the second document discusses resilience in terms of veridical beliefs (‘a staunch acceptance of reality’) and self-confidence (‘Belief in oneself’), while behavioural elements are discussed in the first document in terms of adaptation and use of skills. Moreover, resilience is also said to be manifested through cognitive factors such as specific abilities (‘ability to improvise’), and knowledge and awareness. Last, we can also notice relational factors, which are part of community resilience; at an individual level, people’s capacity to receive and utilise the necessary resources is emphasised. Within the community, the document acknowledges the need for effective leadership, which can mobilise the wider community, and points towards issues of in-

group trust, which is crucial in maintaining cohesion and collective organisation. The relational factors also extend to the inter-group level, with the document referring to intergroup cooperation, acknowledging the agency and potential of communities to be treated as a resource rather than an obstacle (cf. Drury, 2012). However, communities are mainly discussed in terms of location wherein ‘resilient individuals’ reside, or as a sum of their constituent parts (‘Resilient communities consist of resilient individuals’), without mentioning the psychosocial aspect of collectives and communities in their own right (e.g., Drury et al., 2009; Ntontis et al., 2018b: Chapter 3.; Williams & Drury, 2010).

Some documents refer separately to the role of intergroup relations and communication in community resilience. The first extract below comes from the Cabinet Office’s ‘Strategic National Framework on Community Resilience’ (2011: 20), while the second comes from the Cabinet Office’s ‘Preparing for Emergencies’ (2016a: 8):

Extract 9

Effective community resilience will rely on good working relationships within communities, between communities and those who support them on a professional or voluntary basis, and between agencies and organisations engaged in this work. It is, therefore, important that all parties are clear about their roles and the linkages and interdependencies between them.

And:

Extract 10

Building community resilience is something that many people and communities already do. It is not about creating or identifying a whole new community network or a one-off response to or recovery from an incident, but rather an ongoing process of using and enhancing existing relationships to better improve the emergency preparedness of an area.

Both extracts focus on community resilience through the prism of intergroup relations. In the first extract, resilience is constructed as an element that is dependent on other factors ('rely on good working relationships'). Those relations are presented at different levels of group breadth, ranging from the intragroup (within-community relations) to the intergroup (relations between communities and assisting agencies) level. Extract 9 adopts a cognitive discourse based on this distinction between the different kinds of relationship and shifts attention to the importance of adequate knowledge of each group on their connections and corresponding responsibilities, on which community resilience is based. Moreover, all groups, including communities, are treated as having specific roles, thus conceptualised as agentic and active, rather than passive receivers of knowledge.

Extract 2 reifies community resilience by describing it as an element that can be actively 'built'. However, it appears to draw on the concept of social capital to present community resilience as an 'ongoing process', where the improvement of existing relationships can enhance a community's emergency preparedness. Thus, both extracts present underlying elements of resilience such as the importance of positive group relations, based on cognitive, behavioural and relational factors.

Other documents focus on the ways that organisations and responders can assist in enhancing a community's resilience, again by focusing on some of its constituent elements. The next extract comes from the Environment Agency and is titled 'Under the Weather' (2015: 19):

Extract 11

The purpose of an emergency plan is to serve organisations engaged in response and recovery, within the locality at the time of an emergency. Its aim is to increase multi-agency and community resilience by ensuring that all those charged with tackling the emergency on behalf of the community:

- *know their role;*
- *are competent to carry out the tasks assigned to them;*
- *have access to available resources and facilities; and*
- *have confidence that their partners in response are similarly prepared.*

Involving the community in the production of emergency plans whenever possible and practical, and supporting communities to develop their own emergency plans, will enable community members to play an active role in supporting responders in the response to, and recovery from, emergencies and ensure they also meet the requirements set out above.

The extract begins by discussing emergency planning, with a focus on 'increasing' community resilience through the actions of emergency responders when dealing with the emergency. Then it proceeds to present the characteristics that responders should possess, which are described in cognitive ('know their role'), affective ('have confidence') behavioural ('are competent') and practical ('have access') terms. The

document then discusses another element of community resilience, that of agency (cf. Norris et al., 2008). Thus, as suggested by Durodie (2003), communities should not be pathologised as lacking agency and the ability to deal with adversity, but should be treated as able or otherwise to participate in producing emergency plans and in complementing the work of the authorities (Drury et al., 2013).

The next extract comes from a Cabinet Office's webpage titled 'Steps for Increasing Community Resilience' (2016c: 2), which aims to inform organisations on ways to support activities associated with community resilience:

Extract 12

Consider how your organisation enables the public to be aware and take responsibility for their own resilience by:

- *providing information in the public domain – is information and data, relevant to the community and local risks, made publicly available by default and in an accessible format?*
- *signposting, advising and guiding active community groups – are services, resources and points of contact for responder organisations effectively publicised?*
- *ensuring transparency of organisations and existing governance – is information about resilience organisations, governance and decision making publicly available and regularly updated?*
- *removing barriers and bureaucracy – are public and volunteer facing schemes and services as simple, accessible and user friendly as possible?*
- *being open to community input – are responders encouraging and receptive to community input regarding their resilience planning and approach?*

- *making physical resources and assets accessible – are appropriate resources available for use and management by communities?*
- *enabling knowledge sharing and networking within and between communities and groups – are community groups aware of each other's work and actively sharing knowledge, approaches and resources?*

In this extract, the document does not present communities as complementary to emergency responders, but rather constructs 'community resilience' as actions that should be undertaken by communities based on certain cognitions ('be aware') and agency ('take responsibility'). The methods through which organisations can assist communities to enhance their resilience include practical matters like availability and ease of access to information (e.g. 'providing information', 'removing barriers and bureaucracy'), cognitive and social elements ('knowledge sharing') and group relations at various levels ('networking within and between communities'), including community input. However, in contrast to previous extracts, the document does not refer to relations between communities and other organisations. Rather, community resilience appears as a matter for communities only, while the role of other organisations is to support the actions of communities, rather than their having an active role.

2.5. Discussion

In this paper, we focus on the different levels of complexity in constructions of 'community resilience' in UK guidance documents on flooding. Representations range from simple ones like resilience as the opposite of vulnerability or as a reified element, to more complex ones that focus on specific features of resilience, as well as by drawing from broader behavioural and psychological discourses.

One novel finding from our analysis is the notion of ‘circularity’, in which the concept of resilience is used as an explanatory concept to account for individuals’ and communities’ resilience. We also observe that some documents use both simple as well as more complex representations of resilience. We attribute this phenomenon of ambiguity to the lack of agreement about the ‘nature’ of resilience. In line with Norris et al. (2008), we argue that community resilience should be seen as a process rather than an outcome or reified element, since attention shifts towards the elements that aid in its facilitation or inhibition. In parallel with Patel et al. (2017), we argue that a narrower focus on the core elements of community resilience may be more fruitful for its operationalisation in policy and practice. Resilience is a very broad and vague concept on its own, and, because it is a social construct with specific historical and cultural background, attempts to come up with ‘objective’ and ‘universal’ versions take attention away from the core issue of the concept’s operationalisation.

Our findings supplement those by Carter, Drury, Rubin, Williams, and Amlôt (2013) on issues of communication in chemical, biological, radiological and nuclear (CBRN) incidents involving mass casualty decontamination, and Drury et al. (2013) on other UK emergency response guidance documents. We did not find in the documents that we analysed notions of mass panic and the public’s inability to handle information, but rather communication between responders and communities is promoted in most documents. In the flooding guidance we analysed, communities were usually represented as efficacious and agentic, with a potential for resilience and with the ability of handling information and of cooperating with the emergency responders. We suggest that this is due to the differences between the common perceptions and social representations around floods as compared with CBRN incidents. Perhaps, representations of CBRN incidents are loaded with notions of public mass panic

because they are uncommon and outside everyday experience; on the other hand, floods are much more common events, with people's cooperation being much more evident. Durodie (2003) has emphasized the importance of population engagement, and, more specifically with regard to the social aspects of flood management, Challies et al. (2016) have commented on the importance of community involvement. The acknowledgment of the population's behavioural and psychological capacity to act is very useful, since it opens the way for collaboration between agencies and communities in a horizontal rather than top-down manner.

However, in the floods guidance, communities were sometimes constructed in more passive terms and were represented as dependent upon the initiatives of responders and authorities to initialise communication and possible cooperation; their resilience and potential for self-organisation without the input of the authorities was not mentioned. Such conceptualisations avoid considering people's capacities for acting individually and collectively. People often come together in collectives and self-organise during disasters in a bottom-up approach (Clarke, 2002; Drury et al., 2009b, 2015; Williams & Drury, 2010) including floods (e.g. Ntontis et al., 2018b: Chapter 3), which should be considered by authorities, since their involvement can be crucial for the acute and recovery phases. Research on the mental health impact of floods has suggested the need for support for both affected and indirectly affected residents (Waite et al., 2017), and the authorities' cooperation with the emergent groups of volunteers must be taken into account by practitioners and policymakers (as has been suggested by Williams and Drury, 2010). Some of those conceptualisations also stand in contrast to the current aims of policy and practice of community resilience, at least in the context of flooding in the UK. The Government's Strategic National Framework on Community Resilience (2011), for example, accepts the public's ability to support themselves in the

absence of emergency responders, and attempts to promote ‘active subjects’. Thus, the representation of communities as passive receivers of expert knowledge is contrary to the Government’s goals.

In more general terms, the use of vulnerability in the documents we reviewed is very common (Furedi, 2008; Levine, 2004), as is its juxtaposition to resilience. In our analysis, we note a hydraulic relationship between the two concepts, with resilience often treated as the antidote to vulnerability. Researchers have suggested that treating resilience and vulnerability as exact opposites can lead to ‘circular reasoning’ (Klein, Nicholls, & Thomalla, 2003; Manyena, 2006), and we add that the reification of resilience and its positioning next to a similar version of vulnerability can be problematic, since they both ignore social processes and dynamics that lead a community to being resilient in the first place.

The concept of community itself is also heavily debated. The Strategic National Framework on Community Resilience (2011: 12) identifies 4 different types of communities: a) the geographical communities, which are based on recognizable boundaries and are based on proximity; b) the communities of ‘interest’, which are based on groups with similar affiliations; c) the communities of ‘circumstance’, which are based on people’s shared experience of a common adverse incident; and d) the communities of ‘supporters’, which are based on groups of volunteers within organisations. However, it is geographical communities that are the main targets of community resilience initiatives (2011: 12), with no specific guidelines given to other types of communities such as those of circumstance (see also Drury et al., 2013). We argue that emergent communities should be taken into consideration. Social psychological research has identified how survivors come together during disasters (Drury et al., 2009a, 2009b; Drury et al., 2016) and floods in particular (Ntontis et al.,

2018b: Chapter 3), showing that psychosocial communities emerge and operate in the aftermath of floods, providing crucial support for the recovery phase. Neighbouring streets can have both affected and non-affected residents who might spontaneously come together to offer and receive support. Thus, emergency planning should take into account the intertwining of both geographical and psychosocial communities, which should be reflected in the official guidance.

The operation of psychological communities raises further questions that emergency responders should consider, such as the nature of affected communities, the pre-existing relations between residents that might foster or inhibit their providing support, community values and the perception of community members of the authorities. Community values are crucial, since they can shape the nature of the response (Furedi, 2008). In social-psychological terms, group norms can shape group members' actions and perceptions of others (Drury & Reicher, 1999). The public's involvement in emergency planning has also been recommended in the wider context of disasters and terrorist attacks (Aguirre, 2006; Durodié & Wessely, 2002). We think that it is likely that a community's recovery will be enhanced by it being able to provide its services as well as enhancing people's responses towards the affected. Thus, attention to the social processes that occur in communities before, during and after floods might be more useful both for practitioners and communities (see also Williams & Drury, 2010).

Our study is not without limitations. First, its scope is limited to UK guidance documents. Thus, we cannot be sure how resilience is conceptualised and used in the guidance of other countries, including at European level. Second, the scope of this paper is limited to how community resilience is used with regard to floods, so an extension of this review could explore the presence and definitions of community resilience in other guidance (e.g. pandemic preparedness plans).

In summary, we propose the following points should be considered by emergency planners:

- It is better to avoid using simple, reified, and static definitions of community resilience in planning guidance, since they lack explanatory power, as well as clear directions for future action in preparedness and response. A focus on enhancing some specific core aspects of community resilience might be more fruitful compared to focusing on community resilience as a generic concept.
- The emergence and collective resilience of communities during and in the aftermath of disasters should be reflected and taken into account in planning guidance.
- Circularity (using resilience to explain resilience itself) should be avoided, since it lacks focus on its more specific, core parts and, thereby, risks overemphasising empirical support for actions that are proposed.

Chapter 3**Paper 2 – Emergent social identities in a flood: Implications for community
psychosocial resilience**

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3.1. Abstract

Although the mobilisation of pre-existing networks is crucial in psychosocial resilience in disasters, shared identities can also emerge in the absence of such previous bonds, due to survivors sharing a sense of common fate. Common fate seems to operate in ‘sudden-impact’ disasters (e.g., bombings), but to our knowledge no research has explored social identity processes in ‘rising-tide’ incidents. We interviewed an opportunity sample of 17 residents of York, UK, who were involved in the 2015-16 floods. Using thematic and discourse analysis we investigated residents’ experiences of the floods, and the strategic function that invocations of community identities perform. We show how shared community identities emerged (e.g., because of shared problems, shared goals, perceptions of vulnerability, and collapse of previous group boundaries), and show how they acted as the basis of social support (both given and expected). The findings serve to further develop the social identity model of collective psychosocial resilience in ‘rising-tide’ disasters. Implications for policy and practice are discussed.

3.2. Introduction

Disasters can affect communities both materially and psychologically and can be divided into ‘sudden impact’ and ‘rising-tide’ events (London Resilience Partnership, 2014). Sudden impact events (e.g., bombings, earthquakes) are relatively sudden, unexpected, and unpredictable, while rising-tide events (e.g., floods) are usually predictable, allowing more time for the coordination of an arranged response. With regard to floods, UK authorities focus on improving the *collective resilience* of communities (Cabinet Office, 2011). Most of the government’s guidance on community resilience focuses on pre-existing social bonds and networks within communities, which are activated in the face of adversity, and can mobilize support, prevent trauma, and assist in recovery (e.g., Cabinet Office, 2011). However, pre-existing relations are not always necessary for supportive behaviour in disasters (Drury, 2012). Decades of disaster research have shown that an emergent sociality, involving mutual aid among survivors, often arises in the face of adversity, over and above pre-existing bonds (e.g., Fritz & Williams, 1957; Kaniasty & Norris, 1999; Solnit, 2009). Social psychological research on sudden-impact extreme events (e.g., Drury, Cocking, & Reicher, 2009a, 2009b; Drury, Novelli, & Stott, 2015; Drury, Brown, González, & Miranda, 2016) suggests that this sociality reflects an emergent social identity based on the experience of common fate.

In this paper, we present an exploratory interview study with residents of the recently flood-affected area of York, UK, in which we sought to examine whether identity processes that have been shown to operate in ‘sudden impact’ disasters also operate on ‘rising tide’ incidents: that is, whether shared identities did emerge based on a shared experience, and whether the provision and expectations of support operated through a shared social identity.

3.2.1. Floods and the UK context

In the United Kingdom, flooding poses one of the major national risks, both in terms of impact and likelihood (Cabinet Office, 2015); more than five million people in 2.4 million properties are at risk from river, sea, surface or groundwater flooding (WHO Regional Office for Europe, 2013), and climate change makes it likely that more houses face a risk of flooding in the future (Committee on Climate Change, 2012). Floods can be reoccurring and repeatedly affect the same population; their effects can persist for a long time after the waters have receded (Stanke, Murray, Amlôt, Nurse, & Williams, 2012). Moreover, they can have long-term impacts due to primary and secondary stressors (Stanke et al., 2012). Primary stressors are directly related to the disaster itself, and have been defined as ‘inherent in particular major incidents, disasters and emergencies, and arising directly from those events’ (Department of Health, 2009, p. 20), while secondary stressors are described as ‘following from and are consequential on what has taken place’ (Department of Health, 2009, p. 20).

To defend against the effects of floods, a strategy employed by the UK government is building the resilience of communities. Community resilience has been defined as ‘communities and individuals harnessing local resources and expertise to help themselves in an emergency, in a way that complements the response of the emergency services’ (Cabinet Office, 2011, p. 4). Social psychology provides suggestions on the processes by which people come to see themselves and act as community members during disasters by drawing upon the concept of social identity.

3.2.2. Shared social identities and social support in disasters

The emergence of collective behaviour in emergencies and disasters has been explained through the social identity model of collective psychosocial resilience

(SIMCR; Drury et al., 2009b; Drury, 2012; Williams & Drury, 2009). Collective psychosocial resilience refers to the ways that people collectively organise, mobilise resources, and provide and expect solidarity and cohesion to overcome an emergency or a disaster, based on their shared social identity (Drury, 2012; Williams & Drury, 2009). The SIMCR seeks to explain features of collective behaviour observed in the literature on disasters by applying the principles of self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). A threat can create a sense of common fate, which acts as comparative context and influences the emergence of a shared social identity among survivors. In turn, shared social identity motivates people to give support to others in the group (cf. Levine, Prosser, Evans, & Reicher, 2005), to expect support from fellow in-group members, and enables them to coordinate their actions for the achievement of common goals. This analysis is in line with the social cure approach, which has highlighted the beneficial effects that group belonging can have on well-being (Jetten, Haslam, & Haslam, 2012).

Evidence for this process comes from research on extreme, sudden impact events. A shared group membership was evident among survivors interviewed after the London bombings on July 7th, 2005. This seemed to arise due to common fate and was argued to have facilitated social support between them (Drury et al., 2009b). Similarly, in the Chile earthquake and tsunami in 2010 (Drury et al., 2016), a survey found that common fate due to the widespread impact of the disaster predicted shared social identity with other people affected by the event. In turn, shared social identity predicted survivors providing each other with emotional support and with expectations of support, which itself predicted participating in providing coordinated support. Further, identification with the crowd during a near-disastrous outdoor music event enhanced feelings of safety and expectations of support among party-goers (Drury, Novelli, & Stott, 2015).

In line with this model, majority and minority groups felt as if they were part of a common group after an Italian earthquake in 2012 (Vezzali, Cadamuro, Versari, Giovannini, & Trifiletti, 2015).

To our knowledge, the SIMCR has not yet been applied to investigate group processes in rising-tide extreme events like floods. The term ‘community resilience’ is usually applied to existing communities (Cabinet Office, 2011), with less attention given to ‘communities of circumstance’ or the processes through which these emergent communities operate during floods. Also, research has largely focused on the emergence of shared identities during the acute phase of disasters, leaving possible social identity processes in the aftermath of disasters and their impact in alleviating the effects of secondary stressors largely unexplored. Therefore, we used an incident of large-scale floods in the UK as a case study to investigate the processes through which residents came to identify as community members, and the ways that the provision and expectations of support might operate through such identifications.

3.2.3 Background: The December 2015 York floods

York was hit by Storm Eva on 24 December 2015. The Environment Agency issued warnings from 23 December. On 26 December, the water almost entered the control room of the River Foss barrier. The Environment Agency was forced to lift the barrier to lower the water height and avoid damage to the electrical equipment, which could, otherwise, have resulted in loss of control. That action resulted in flooding the surrounding area. A multi-agency response to protect public health and minimise the damage was initiated involving North Yorkshire Police, the City of York Council (CYC), the Environment Agency, Fire and Rescue teams, and Yorkshire Water (City of York Council, 2016). The community and volunteer response was prompt; over 250

members of the public and 25 other volunteer groups helped to fill sandbags, clean the affected areas, prepare food, and pack and distribute supplies. Around 350 houses and 157 businesses in 34 of York's streets were confirmed as internally flooded, the Travellers' community in St James Street was also affected, and 250 people were evacuated. Disruptions were reported in networks of communication, roads and power, and there were reports of multiple burglaries at evacuated properties (BBC, 2015). York was represented in public and media discourses as a case of strong 'community spirit' during and after the floods (York Press, 2016), which made it an ideal case study to investigate possible social identity processes.

3.3. Methods

3.3.1. Interviews

We carried out 16 interviews with 17 York residents (two participants were interviewed as a pair) almost two months after the floods. Participants were an opportunity sample, interviewed on the basis of their willingness to share their flood experiences. Some residents expressed their interest to be interviewed during residents' meetings, while others were recruited through 'snowballing'.

The interview questions were partly exploratory, but also theoretically-driven since we were interested in the role of emergent social identities in group processes during the floods. Participants were asked about community relations (e.g., *'how would you describe the community after the floods'*), vulnerability (*'did you feel in control of things'*), common fate (*'did it feel like people shared the same fate'*), shared identity (*'did you feel a sense of unity with them'*), behaviour (*'how did you react'*, *'did people organise collectively'*), received and expected support (*'did you receive support'*, *'do you think that if you need support, you will have it'*).

Our sample was divided between flood-affected residents, non-affected residents, and indirectly affected residents – see Table 3.1. Four interviewees' homes were flooded (water in their houses or businesses), five were indirectly affected (e.g., through neighbourhood disruption, problems with internet/telephone, transport, resources), and eight were not affected. We interviewed non-affected people to investigate whether similar identity processes also operate in absence of flood damage. Six participants were male and 11 were female. The age of the 13 participants who were willing to declare it ranged between 24 and 69 years ($M = 45.3$, $SD = 12.66$). All participants were over 18 years old. Participants were unemployed, charity workers, civil servants, self-employed, students, or unable to work. The interviews were fully transcribed; their mean duration was 35.4 minutes (total = 9 hours 46 minutes).

3.3.2. Analytic procedure

We employed thematic analysis (Braun & Clarke, 2006) and techniques from discursive psychology (Potter, 1996; Potter & Wetherell, 1987) to the material. First, we re-read the data, created codes where extracts of similar content were assigned (e.g., references to community identity, provision of social support), and organised them into distinct and coherent themes. Our analysis was guided by theoretically-driven questions (e.g., was there reference to shared identity), but unexpected themes were also identified (e.g., different ways of talking about antecedents of that shared identity). In line with previous work (Drury et al., 2009b), we consider references to sense of community, togetherness, and unity, as indicators of shared identities. Through discursive psychology, we investigated the strategic functions that invocations of the emergent sense of community played in the construction of group boundaries and in justifying perceptions and actions that occurred during the floods.

3.4. Analysis

We start this section by presenting extracts that show how people understood shared identities emerged in absence of pre-existing relations. Table 3.1 provides an overall picture of these two themes combined by presenting each participant's flood status, feelings and observations of a shared community identity, and their observations and provision of social support¹.

Table 3.1. Participant demographics, shared identity, and supportive behaviours

				Shared community		Supportive	
				<u>identity</u>		<u>behaviours</u>	
	Gender	Age	Flood status	Observed	Felt part of	Observed	Carried out
P1	M	34	Not flooded	Yes	Yes	Yes	Yes
P2	F	44	Flooded	Yes	Yes	Yes	Yes
P3	F	45	Indirectly affected	Yes	Yes	Yes	Yes
P4	F	62	Not flooded	Yes	-	Yes	Yes
P5	M	60	Not flooded	Yes	Yes	Yes	Yes
P6	F	-	Not flooded	Yes	Yes	Yes	No
P7	M	30	Not flooded	Yes	-	Yes	Yes
P8	F	-	Indirectly affected	Yes	Yes	Yes	Yes
P9	F	69	Not flooded	Yes	No	No	No
P10	F	46	Flooded	Yes	Yes	Yes	Yes
P11	M	44	Indirectly affected	Yes	Yes	Yes	Yes
P12	F	53	Indirectly affected	Yes	Yes	Yes	Yes
P13	F	45	Indirectly affected	Yes	Yes	Yes	Yes
P14	F	24	Not flooded	Yes	-	Yes	No
P15	M	-	Flooded	Yes	-	Yes	No
P16	F	33	Not flooded	Yes	Yes	Yes	Yes
P17	M	-	Flooded	Yes	-	Yes	Yes

¹ Participants are identified through the letter P, their number, and the subsequent letters F (for flooded); N (for non-flooded); I (for indirectly affected).

3.4.1. Emergence of shared identities

The first extract is typical of accounts of a sense of unity and cohesiveness arising during adverse events:

P10F: I would imagine that mentality of everybody coming together in that time of crisis, I just felt I wasn't alone, and it was really nice.

P10F refers to a specific way of thinking ('*that* mentality') which arises during times of hardship ('time of crisis') and uses an extreme-case formulation ('everybody') to give emphasis to a widespread feelings of togetherness. The shared way of thinking is attributed to primary stressors, which in this case is the event ('crisis') itself. The crisis is seen by the participant as causing the convergence of people and the broadening of group boundaries, and also brings up a sense of commonality, diminishes negative feelings of loneliness and individuality ('I just felt I wasn't alone'), and creates a positive experience ('it was really nice').

Similarly, we see how a non-affected resident came to identify with the affected residents and offer her support:

I: So maybe you felt this sense that this sense that people who had been affected were more like yourself? People who happened to have the disaster strike them?

P16N: Yeah exactly, it's not fair, they have been treated to a way that I didn't, it's some of the consequences, it's not anything other than chance really so, and yeah so I did feel like I may as well do something.

The extract starts with the interviewer asking this non-affected participant whether she identified with the affected residents. The interviewee provides a positive response and proceeds to justify her position. The situation that flooded people have found themselves in is constructed as an injustice ('it's not fair'), and the use of passive voice constructs the flooded residents as victims rather than agents of their situation, to which the interviewee expresses her personal concern ('they have *been treated* to a way that *I didn't*'). People's grievances are again constructed not in terms of personal responsibility, but as a matter of 'chance'; anyone could have been in their position, which is used to explain offers of support. Thus, irrespective of flood status, the sense of a potential common fate and perception of others as victims led the participant to identify with the affected and offer support.

An unexpected finding was that, for some participants, the community spirit emerged because the floods hit a previously unaffected area, the residents of which were perceived as vulnerable rather than prepared:

P6N: we're all used to this happening and everybody who is along here gets prepared, they're prepared, but this is what shouldn't have happened, and this is where the idea for the community spirit for the floods, yeah that's where we came in, I mean these people are organised, so we don't bother about them ((laughs)), because they know what they're doing, but this, when this happened, and it happened for the first time since the 1980s.

Some areas of York flood several times a year, but the community is not mobilised in support of the affected. P6N, who was unaffected, mentions that awareness and preparation in the regularly flooded areas is in place, which makes those residents being

perceived as prepared ('these people are organised', 'they know what they're doing, 'we don't bother about them'). Non-affected residents' lack of concern for the regularly flood-affected is formulated under an inclusive 'we', which makes the lack of response appear as a normative community response. However, the location that was affected in the winter of 2015-16 was not a regularly flooded one, and the residents were less prepared to deal with the emergency. Thus, as P6N mentions, the community spirit emerged because the floods in the recently affected area were outside of the everyday ('*this* is what shouldn't have happened'), which made them perceive those affected as unprepared, vulnerable, and in need of support ('this is where the idea for the community spirit for the floods, yeah that's where we came in'). The response and emergent community spirit are formulated through an inclusive 'we' and as representing the community, which is used to explain the mobilised support towards the residents of the vulnerable, unprepared area.

Other participants explained how the shared impact of extreme events resulted in existing group boundaries being dissolved, leading to development of unity and mutual support:

P5N: The thing [the community spirit], I think it's been amazing, I kind of related it to, I don't know if you know the story of the selfish giant, he builds a wall around him, doesn't he, and he kind of keeps himself in and he's a bit angry with things, and I think sometimes communities can get a bit like that, we tend to build these barriers up, it doesn't matter where you live or who you are or if you've got money or if you've not got money, everybody just came together, there not those walls there, and I just really feel that the community spirit had died, [but] it's [still] there.

P5N discusses how individualism was dissolved and the re-appearance of an inclusive sense of community through the metaphor of the ‘selfish giant’. The character in that story surrounds himself with walls that separate him from the rest of the community; there is a lack of communication and negative attitudes to others. Similarly, people within communities are constructed as setting up boundaries between them during everyday life, preventing a sense of community from coming into existence. Script formulations are used to represent the everyday individualism as typical (‘communities can get a bit like that’) and as representing the whole community (‘we tend to build these barriers up’). The participant then uses breach formulations (Edwards, 1994) to describe how individualistic routines are disrupted during an emergency: group boundaries seem to dissolve (‘they’re not those walls there’), people are united (‘everybody just came together’), and previous group boundaries like one’s identity or income are not relevant anymore, which is attributed to the event itself (‘but because this [the flood] has happened’). P5N presents his positive feelings towards the community spirit that re-appeared (‘it’s been amazing’), and emphasises its persistence and broad inclusiveness of residents, regardless of differences in class and status.

For some residents, it wasn’t the event itself but common problems (in this case burglaries of evacuated houses) following the immediate impact of the event that facilitated a sense of commonality between residents:

P12I: People came in and looted, that wasn’t just the Travellers that it happened to, it also happened

I: It also happened to other houses as well, to the settled community for instance?

P12I: Yeah, so actually that makes you feel a little better because ‘woop, something that happened to us also happened to you’ you don’t usually do that, you know what I mean, we’re very separate.

P12I was a ‘settled’ resident closely associated and working with the York Traveller community, which was heavily affected by the flood. She had previously referred to the lack of contact and discrimination that Travellers face from the settled York community. First the participant identifies the problem (‘people looted’) and then identifies the groups that suffered from those behaviours, which are both the Traveller and the settled community. The common targeting seems to generate positive feelings (‘you feel a little better’), which is justified through the common problems that those two distant communities faced (‘something that happened to us also happened to you’). Thus, previous identities of location (e.g., settled vs Travellers) were not salient anymore, but common fate and shared grievances between the majority and minority groups were seen as enough to make them identify as a common group.

According to some other residents, the sense of ‘groupness’ came into existence because residents shared similar goals for dealing with common problems:

I: So, this lack of coordination also leads people to take action, collective action, to change things?

P3F: I think it will, the Facebook group has been described as a movement, and it think that’s not far away [inaudible] I think it’s containing people you know from every end of the political spectrum, and none, people of all classes, ages, demographics, faiths, beliefs, none, whatever, ahm, it contains all those people, and everybody’s had and it’s not that we have a common enemy, it’s that we’ve

had a common cause, yeah, we've worked for something, not against something, that is my feeling there are times when you feel wrecked and those are the self-destroying moments, unfortunately you are working against that infrastructure that was supposed to be in place.

The participant had earlier referred to problems stemming from the actions and inactivity of the authorities and the council, and had also mentioned that the Facebook group assisted with the overall coordination between residents in asking for and providing support. P3F defines the group not as a simple platform for coordination, but as the online embodiment of the community. It is constructed as broad and inclusive, with its members not being distinguished from various previous identities ('classes, ages, demographics, faiths, beliefs'), but from their shared goals and willingness to collectively engage and deal with the flood damage ('we've had a common cause'). Individual grievances seem to become collective ones identifying others in a similar situation, and the Facebook group itself became a platform that embodied this shared identity to deal with the floods. Thus, identifying others with common grievances appears as leading to the emergence of groupness, while at the same time groupness (e.g., coordinating through social media) can empower and create further shared goals between its members.

3.4.2. From shared identity to social support

Interviewees gave examples of social support, as well as people's expectations of future support:

P11I: A lot of people have asked me to ask questions for them and I've got to the council, I've asked them about the money, I've asked them about the book problems, I've had landlords approaching me asking me if I can help them out, you know, type of people that wouldn't normally stop me in the street and say hello, you know [E: yeah] and yeah it's been, it's been er it's been a great experience.

P11I was very active during the post-flood phase and was asked for practical support by other people. Before the flood, the situation between the interviewee and those requesting support is described as one of distance and separation ('people that wouldn't normally stop me in the street'), but there seems to be a transformation after the floods. Some people were in need of support and others were willing to offer support and help cope with the common experience of the floods. Thus, there seems to be a context where previous interpersonal and group boundaries have collapsed, and the norms of the salient community identity are those of offering support to fellow community members in need, which facilitated communication and offers of practical support, regardless of previous experiences.

There were also instances of emotional support reported in the interviewees' accounts. Residents around the affected area organised meetings in which problems could be addressed and dealt with collectively. A flooded resident stated that:

P11I: I feel after having been to the residents meeting, I feel a lot better, I feel good in a sense that I've been heard as well, I spoke to [MP] and, to actually have an MP who I felt listened and cared, I think that's the whole thing, about being heard and cared about.

The residents' meetings generated positive feelings ('I feel a lot better') and were empowering for the attendants, since they felt that their voice was heard by a group that was created due to similar interests and goals. Moreover, the presence of people with a certain political status (e.g., an MP) that were accepted by residents to the meetings and seemed to share similar goals with the group seemed to further enhance participants' positive feelings. Residents' meetings were also described as a place where residents could provide emotional support to each other:

P11I: I think there's been a real sensitivity if somebody looks sad then there's been a hand on the shoulder, it's that sort of non-verbally type thing, but for me, when I was talking about the residents meeting and I just, tears just came in my eyes and a lady came and she was like 'right ok, where can I point you in a direction, here's a number for blah blah blah,' and she was there and I have no idea, I mean obviously I know her name now but I had no idea who she was and she was there offering support.

In this account, residents coming together in a group of similar interests and goals facilitated the provision of emotional support between attendees. This is evident in P11I's statement that, in general, there is 'a hand on the shoulder' for whoever might need support. This statement is supported from a personal example in which emotional support seems to have been provided between attendees with no previous affiliations.

There were also instances of members of the community expecting support in the case of future extreme events. P10F was asked about the support she would expect in case of a future emergency:

P10F: yeah I think so yeah it's not like I expect, it's like I think, for me it feels like human nature, because you know each other more, I couldn't ask for any more, people were amazing coming as I said from all over the UK, but the community spirit here has been phenomenal, and then people, if I don't know say, I didn't even know certain people who lived on the estate, people pointed us to the direction of each other, so it's been really, really nice on that level.

Here, P10F uses a script formulation ('human nature') to attribute feelings of expected support to generic innate qualities rather than personal beliefs ('it's not that I expect'). The expected support in a future emergency is justified through the better connections and networks between residents that were established after the floods ('because you know each other more'). Support was described as arriving from many places ('from all over the UK'), and the community is invoked to describe a sense of collectivity and broadened group boundaries ('the community spirit here has been phenomenal'), which led the participant to get to know people with which she had no previous contact ('I didn't even know certain people'). Thus, the previously observed support and the new connections created overall make up the participant's explanation for her perceptions of expected support in a future emergency. Similarly, P1N explains how expected support operates:

P1N: cause I had this discussion earlier, just having that implicit trust in, you know, in your fellows, you don't know, but based on previous experiences and what you see, you can expect help, and that in itself it is for me anyway a great physical and emotional comfort.

This interviewee constructs expected support as the ‘implicit trust’ in networks to deliver support during emergencies. It appears to be linked to previous experiences and observing support, with positive experiences (e.g., people coming together and offering support to flood survivors) and observed events (e.g., observing people helping each other) enhancing later expectations of support and proving to be beneficial both practically and emotionally.

However, some participants referred in their interviews to supportive networks and group-helping behaviours which, when absent, reduced expectations of support:

P8I: All of a sudden all the flooded community had gone and of course we were the next ones in line so, all of a sudden, we didn’t have any neighbours, it was just us and there was nobody you know, initially there was nobody there and it was like ‘who do we talk to’ and you know so it was quite isolating, cause the people we were meeting were people who had just come down for a look in the end, ehm you know, they were just out of curiosity, they weren’t sort of directly affected, and it was like suddenly we had lost that support network because if our house floods, there’s nobody in distance now cause they’ve already left.

P8I lived in a flood-affected neighbourhood, saw the water rising near her house, but in the end suffered no damage. P8I offers a vivid description of the events which emphasises the lack of supportive networks. The lack of immediate neighbours with whom to communicate gave rise to negative feelings such as isolation and lacking supportive networks. The feelings of loneliness did not disappear when people visited the flooded area, since the participant did not perceive them as similarly affected (‘they weren’t sort of directly affected’) or as coming to their aid (‘they were just out of

curiosity’), since passers-by were not described as sharing mutual situation or goals with the participant, resulting in not being constructed as possible networks of support.

3.5. Discussion

In this paper, we investigated the processes through which a shared identity emerged during a ‘rising-tide’ disaster, and whether different types of social support operated through social identity processes. Previous work has focused on social identity processes on directly affected people during the acute phase of emergencies (e.g., Drury et al., 2009a, 2009b; Drury et al., 2015), and a novel aspect of our paper is to show how shared identities operate in the aftermath of disasters. In our case, there is some evidence that the non-affected community mobilized in support of the affected after the waters had receded, which is crucial in mitigating the impact of secondary stressors and in assisting with the long-term recovery.

Our analysis is in line with the SIMCR (Drury, 2012) and suggests that, similarly to ‘sudden impact’ events (e.g., Drury et al., 2009a, 2009b; Drury et al., 2015), new shared identities can also arise in ‘rising tide’ incidents over and above any pre-existing bonds. For example, residents explicitly mentioned feeling a sense of unity, received, and gave support to people they did not know before. The emergent sense of togetherness was sometimes evident through participants’ reference to ‘we’, reflecting novel extended group boundaries within the geographical community.

There was evidence that people identified with others in terms of a shared community identity, based on common fate. The present analysis therefore extends findings on the emergence of identities by shedding light on the processes through which indirectly and non-affected residents come to share a sense of social identity with the affected. It suggests that identification with affected people arose through: directly

experiencing the flood; through secondary stressors (e.g., looting or problems with the authorities); shared goals for dealing with common problems; common fate itself; and sometimes because of a *potential* common fate. Putting oneself in the shoes of people who were affected, imagining the possibility of being in a similar situation, or perceiving the affected as vulnerable victims mobilised support from unaffected residents

Shared identities are crucial for the provision of social support (e.g., Drury et al., 2015; Vezzali, Cadamuro, Versari et al., 2015). We noted that residents praised the community spirit, and said they were eager to provide practical and emotional support, while also having heightened expectations of future support. In terms of practical support, indirectly affected residents mentioned sharing resources among themselves, and they also received emotional support from other residents. Non-affected residents stated that they helped distribute resources, gathered donations, and shared information. Interviewees said that emotional support was offered either directly, or came through indirect empowerment during resident meetings, and we can perhaps assume that the longer the sense of community is sustained through community flood groups, the longer people will feel that their voice is heard. Residents also felt more confident about the future, since the support they observed being offered increased expectations of future support and facilitated a sense of empowerment. These expectations of future support were shared by both affected and non-affected residents, and are again in line with the predictions made by the SIMCR. We also found that most participants who observed and felt part of the community spirit had also observed and provided various types of social support (see Table 3.1). All types of support are important for the recovery of the affected community through the mitigation of the impact that secondary stressors can have. However, the loss of supportive close networks, accompanied by the perception of

unrelated people as ‘others’ rather than as fellow community members, and of their behaviours as not oriented to group-helping, can limit broadening of group boundaries and the emergence of shared identities, leading to perception of oneself as lacking and not expecting support, increasing perceptions of vulnerability.

Shared identities in the context of flooding were not simply a function of context, but were also strategically invoked to bring that collectivity into being and define its boundaries in certain ways, often through the use of a collective ‘we’. Group boundaries can be broadened to be more inclusive and achieve mobilisation, or they can be redefined as narrower, excluding people as in-group members and reducing the chances of people receiving support (Reicher & Hopkins, 2001; Reicher, Cassidy, Wolpert, Hopkins, & Levine, 2006). To sustain groups and their identities over time, broad and inclusive rhetoric should be used that constructs the community in collective rather than individualistic terms. Thus, if community resilience can only be achieved through the cooperation of communities and authorities, it is important that authorities and emergency responders are perceived as parts of the community, rather than as outgroup members. Some participants stated that unity came when they were trying to deal with situations caused by what they saw as the lack of coordination and preparedness of the authorities. While not taking such accounts uncritically or necessarily representative of the population, a distinction between residents and authorities might exist that can prevent a broader sense of unity and cooperation and negatively affect the resilience of the community. Thus, if cohesion is sought, it is also the responsibility of the authorities to build communities’ trust in their policies and actions.

Our research has certain limitations. It comprised conducting and analysing a cross-sectional series of exploratory interviews, so our findings are far from conclusive. We focus on some participants’ accounts, and other interviews could have different or

even contradicting experiences. Also, the lack of previous acquaintances between the first author and members of the York community proved to be a difficulty in recruiting participants. Thus, it is possible that our participants were more community-oriented because we constructed our sample through snowballing. However, the use of opportunistic sampling based on people's willingness to share their experiences, and the introduction to the first author through previous connections proved to be useful, since it offered access to residents who might otherwise have been difficult to reach. Also, introduction through former participants made the interviewer appear as a trusted source, encouraging participants to be open in their responses (Sheu, Wei, Chen, Yu, & Tang, 2009). Another limitation of our study is that we were not able to investigate whether the social support given during and after the floods was received by flooded residents on the basis of a shared identity. Indeed, social psychological research in line with the social identity tradition has shown that people are more likely to accept social support when they share a social identity with its providers (e.g.; Haslam, O'Brien, Jetten, Vormedal, & Penna, 2005; Haslam, Jetten, O'Brien, & Jacobs, 2004; Levine et al., 2005). However, the conditions under which this study was carried out, and subsequently the nature of our sample did not allow us to investigate whether social support was indeed received on the basis of a shared social identity. Most of our sample comprises of non-affected and indirectly affected residents, with only four having experienced flooding directly. This is because the interviews were carried out soon after the floods, when most residents had already moved to other properties due to their residences being uninhabitable. Thus, their identification and participation in the study was not possible at that specific time.

We suggest the following work is needed if we want to avoid the limitations of this exploratory study and be able to generalise our findings. First, more interview

studies and focus groups with those affected by other floods can provide evidence for transferability and verify that the themes emerging in our analysis are common. Second, more interviews with only flooded residents are required to shed light onto how displacement affects the sense of togetherness, and how offers of support from non-affected residents are accepted on the basis of a shared social identity. Third, quantitative surveys in a larger population are necessary to investigate the complex relationship between emergent identities, their antecedents, their psychosocial effects, and to infer issues of causality.

Finally, we would like to avoid giving the impression that resilience is some sort of panacea. First, our analysis addresses only the psychosocial/group aspects, while ‘community resilience’ also comprises many other factors such as economic and other resources (Norris et al., 2008). Second, community resilience is inextricably linked to socio-political policies, meaning that austerity-based budget cuts can directly affect the availability of economic resources. Some interviewees linked the flood with dissatisfaction and unhappiness with government policies. Moreover, the definition of ‘community resilience’ itself refers to the processes by which communities help themselves and complement the work of the emergency services. Thus, there is a possibility that the strategy of enhancing community resilience could be perceived by flood-affected residents as resulting from the authorities’ inability to provide adequate support, placing the responsibility of preparedness and response on communities themselves.

Chapter 4

Paper 3 – After the floods: Understanding the post-disaster persistence or decline of emergent community togetherness

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4.1 Abstract

Social psychological research has shown that disaster survivors can come together in emergent groups due to a shared sense of common fate, enhancing the provision of social support and collective coordination. The persistence of togetherness over time is crucial for the recovery period, but emergent communities have been shown to disappear over time, thus in this interview study we investigate the factors that aid in the decline or persistence of togetherness in a post-flood community. Through a theoretical thematic analysis, we show how shared identities can decline due to a lack of common suffering, perceived unequal treatment, differences in the recovery period, and contextual changes in people's lives. However, we also show that a sense of togetherness can be maintained through stronger bonds due to shared experience, reminders of the primary event, communication among residents, organised meetings, and the persistence of social support. Implications for policy and practice are discussed.

4.2 Introduction

Research in line with the ‘social cure’ approach in social psychology (Jetten, Haslam, Haslam & Branscombe, 2009; Jetten, Haslam & Haslam, 2012) has established the beneficial role of group memberships on well-being in various settings. The principles of the ‘social cure’ and the benefits of shared identities have also been shown to apply in the context of disasters including earthquakes (Drury, Brown, González & Miranda, 2016), bombings (Drury, Cocking & Reicher, 2009b) and floods (Ntontis, Drury, Amlôt, Rubin and Williams, 2018b: Chapter 3). This line of research has documented how shared identities emerge in the acute phase of the disaster and how they positively affect wellbeing and collective resilience by enhancing solidarity behaviours and mobilising the provision of social support.

However, research has shown that emergent communities decline after the acute phase of the disaster (Kaniasty & Norris, 1999; Quarantelli, 1999), when the need for social support is most crucial (Kaniasty & Norris, 1999; Norris & Kaniasty, 1996), which makes the question of how the ‘community spirit’ is maintained both theoretically and practically important.

In this paper we investigate the factors that aid in the decline and persistence of togetherness in the long-term aftermath of floods, through an interview study with residents of a flooded community 15 months after the floods. We also attempt to show how disaster research can benefit from a social psychological examination on group processes in disaster communities. We begin by making the case on the importance of studying floods due to their increasing impact and prolonged damage.

4.2.1 Floods in the UK: Secondary stressors and community resilience

Floods are considered one of the highest priority risks that the UK is facing (Cabinet Office, 2015), and are likely to be experienced more frequently and with greater severity with the rising temperatures caused by climate change (Cabinet Office, 2015; Committee on Climate Change, 2012). Currently, around 5 million people in 2.4 million properties are at risk of floods in the UK (WHO Regional Office for Europe, 2013), which can take the form of coastal, river, or surface water flooding (Cabinet Office, 2015). The consequences of floods can include casualties, property damage, disruption to supplies, transport, and networks of communication, as well as environmental damage (Cabinet Office, 2015, p. 22).

The impact of floods is not constrained to material damage but can also extend to psychosocial dimensions. The damage does not stop when the waters recede but can persist through the presence of *secondary stressors* (Lock et al., 2012; Stanke, Murray, Amlôt, Nurse & Williams, 2012), which are described as “following from and are consequential on what has taken place” (Department of Health, 2009, p. 20). Examples of secondary stressors include loss of possessions, problems in the recovery and rebuilding phases, insurance issues, economic difficulties, as well as a loss of social networks and reduction in the social support available. The persistence of secondary stressors (Tempest, English National Study on Flooding and Health Study Group, Carter, Beck & Rubin, 2017) as well as more severe exposure to the flood (Waite et al., 2017) have recently been associated with negative psychological outcomes including depression, anxiety, and PTSD, while such effects can become more severe when taking into account one’s gender, emotional stability, availability of support, and total amount of stressors experienced (Dai et al., 2017). Overall, evidence shows that flood damage

can extend for a long time after the immediate impact, and it is crucial for this prolonged impact to be taken into account by professional bodies.

One way that the UK Government is trying to deal with the impact of floods is through enhancing the resilience of communities (Cabinet Office, 2011). Research on community resilience has mainly focused on the role that social capital, which stems from pre-existing community networks, can play in the response and recovery phases of disasters (Aldrich, 2017; Petzold, 2017; Walker-Springett, Butler & Adger, 2017; Wickes, Britt & Broidy, 2016; Wickes, Zahnow, Taylor & Piquero, 2015). The crucial role of social capital for community resilience is also evident in the UK Government's (Cabinet Office, 2011; Twigger-Ross, 2006) policy and guidance documents, and those of other institutions (e.g. McNulty & Rennick, 2013; Twigger-Ross et al., 2015), which assume that stronger communities with more dense networks before disasters occur are likely to respond and cope better with the impacts of disasters. However, while social capital can be central to community resilience, it does not make an additional contribution to improve post-flood conditions compared to its benefits in a non-flooded community. Rather, what has been suggested is the beneficial effects of social ties occur when they are manifested in terms of community competence and action (Wickes et al., 2015). Moreover, notwithstanding its beneficial role for overcoming the impact of disasters, there are specific behavioural patterns that explanations based on pre-existing networks cannot account for, such as the evidence of *emergent groups* that form during adversity and mobilise social support toward affected people.

4.2.2 Communities and emergent groups in disasters: Their social psychology

Early disaster research has demonstrated how common suffering during disasters can break pre-existing distinctions, bring communities together, and increase altruism

and solidarity (Fritz & Williams, 1957), with later research supporting this observation (e.g., Quarantelli, 1984; Rodriguez, Trainor & Quarantelli, 2006). Solnit (2009) presented this emergent sociality and altruistic responses in a rich description of responses to disasters ranging from the 1906 San Francisco earthquakes and fire up to Hurricane Katrina of 2005 (see also Rodriguez et al., 2006), while similar studies of individual events have identified patterns of altruistic behaviours in floods (Kaniasty & Norris, 1999).

Social psychological research has attempted to explain this emergent sociality by drawing on the self-categorization theory (SCT hereafter; Turner, Hogg, Oakes, Reicher & Wetherell, 1987). SCT investigates the conditions under which we come to perceive people as group members rather than as individuals, as well as the consequences of such categorizations. It argues that people can perceive themselves at various levels of abstraction ranging from an individual “I” to a collective “we”. The emergent togetherness observed in disasters has been explained through the *social identity model of collective psychosocial resilience* (abbreviated to SIMCR hereafter) (Drury, 2012; Williams and Drury, 2010) (for a review see Drury, 2018). SIMCR draws from the principles of the self-categorisation theory (SCT; Turner, Hogg, Oakes, Reicher & Wetherell, 1987) and argues that a sense of *common fate* that survivors experience can make them perceive themselves as parts of the same group and as sharing a social identity (also see Lim and Desteno, 2016; Vollhardt, 2009; Vollhardt & Staub, 2011). In turn, this shared group membership motivates people to provide social support between themselves, increases expectations of support from each other, and enables coordination among them.

Moreover, while some identities can emerge from contexts outside one’s control (e.g., common fate), other contexts can consciously be pursued by people, which in turn

can empower and offer continuity to certain identities. For example, people who initially met due to a common threat can consciously organise in groups in the aftermath of disasters to assist in a community's recovery, preparedness, and information, or to take actions against officials and future plans (Stallings & Quarantelli, 1985), which can enhance the continuity of shared social identity.

SIMCR has been investigated in a wide range of disasters and mass emergencies, and evidence can be found in accounts of survivors of the 2005 London bombings (Drury et al., 2009b), in survey participants who survived the 2010 Chile tsunami and earthquake (Drury et al., 2016), as well as residents that experienced the 2015-2016 floods in York, UK (Ntontis et al., 2018b: Chapter 3). It was common for participants across all these instances to report that it was common suffering that caused an emergent sense of togetherness, which in turn mobilized the provision of social support (e.g. provision of equipment, emotional concern, cooperation, taking care of strangers), and led to higher expectations of support.

However, research has also shown that these emergent communities stop operating after the acute phase of the disaster. Fritz and Williams (1957), extending their argument on how the existence of a common threat brings people together, argue that a lack of common threat following the acute phase of a disaster leads to the disintegration of this emergent social solidarity. Similarly, Quarantelli (1999) argues that, while disasters temporarily overshadow pre-impact community differences, old problems can re-emerge in the post-disaster period. The disappearance of those emergent communities inevitably brings together survivors' realisation of the extent of the damage, the beginning of the rebuilding process, as well as a possible lack of available support, which can negatively affect psychological wellbeing (Kaniasty & Norris, 1999; Norris & Kaniasty, 1996).

Previous findings on social identity processes in floods have identified how shared identities emerge during the immediate aftermath (Ntontis et al., 2018b: Chapter 3), but emergent communities disappear soon after the direct impact (Fritz & Williams, 1957). Yet ‘community spirit’ (and the social support it produces) is equally if not more necessary in the recovery phase of a flooding disaster, due to the persistence of secondary stressors. Therefore, in this study we seek to examine the factors and processes that can contribute to the decline or sustenance of a shared social identity following a flood in terms of any contextual affordances (common fate) and in terms of any strategic or conscious actions people undertake to keep a sense of community.

4.3 Method

4.3.1 Case study: The 2015-2016 York floods

Our case study focuses on York, a city located in North Yorkshire, England, which was hit by Storm Eva in December 2015. The Environment Agency (EA) had issued flood warnings from December 23rd, and the storm hit York on December 24th. York is crossed by two rivers, the Foss and the Ouse, and on December 25th the waters almost entered the control room of the floodgate barrier on the Foss. The EA decided to lift the floodgate to lower the water levels and maintain control over the barrier, and that resulted in the river flooding the surrounding area; around 350 houses and 157 businesses in 37 streets were flooded, and 250 residents were evacuated. A multi-agency response was organised, which involved the North Yorkshire police, the EA, Fire and Rescue services, the City of York council (CYC), and Yorkshire water (City of York Council, 2016). Moreover, there were reports of a strong community spirit in public and media discourses, with around 250 residents and 25 other volunteer groups

assisting by gathering and organising donations, cleaning properties, and filling sandbags.

During the period that our interviews took place, some secondary stressors were still ongoing. For example, some houses were still being repaired and some residents still lived in temporary housing (including some of our participants). In July 2017, almost 1.5 year after the 2015-2016 floods, York residents were reported to be contacting the Citizens Advice York for mental health support to assist them to come to terms with the emotional impact of the floods (YorkMix, 2017).

4.3.2 Sample

We interviewed affected residents in March 2017, almost 15 months after the 2015-2016 floods. We identified 40 residents through a relevant flood survey carried out in the city of York, UK, and contacted them through e-mails asking whether they would be willing to share their flood experiences. Twenty-one residents responded to our request (52.5% response rate), and we finally interviewed 16 flooded and 3 indirectly affected people (disrupted in terms of communication, commute, or access to resources, but *without* water entering their houses). One participant was still in temporary accommodation, while some faced various persisting problems like insurance and rebuilding issues, reoccurring stress in rainy days, and irrecoverable possessions. Three interviews with flooded participants were conducted through the telephone, and the rest face-to-face in a place that suited both participants and the interviewer (first author). Participants signed a consent form or gave their consent to be recorded and interviewed through the telephone. The total duration of the interviews was 13.5 hours ($M = 40.75$ minutes, $SD = 13.26$). Nine participants were male, 10 were female, and

their ages ranged from 30 to 75 years old ($M = 52.10$, $SD = 11.77$) (for further details see Table 4.1).

Table 4.1. Participants' demographics, flood status, and perceptions of persisting shared identities

Participant	Gender	Age	Flood status	Persistence of emergent shared identities
P1	f	38	Flooded	Yes
P2	m	50	Flooded	Yes
P3	m	75	Flooded	No
P4	f	47	Flooded	No
P5	f	46	Flooded	Yes
P6	f	54	Indirectly affected	No
P7	f	42	Flooded	No
P8	m	66	Flooded	Yes
P9	m	47	Flooded	Yes
P10	m	45	Indirectly affected	No
P11	f	43	Flooded	Yes
P12	m	30	Flooded	Yes
P13	f	46	Indirectly affected	Yes
P14	m	66	Flooded	No
P15	f	63	Flooded	Yes
P16	f	-	Flooded	Yes
P17	m	67	Flooded	Yes
P18	m	56	Flooded	No
P19	f	58	Flooded	No

4.3.3 Questions and analytic procedure

We drew from the theoretical framework of SIMCR (Drury, 2012) to focus on participants' experiences of the flood. Questions addressed participants' and other people's *behaviours* ("what did you do", "what did other people do"), *common fate* and *shared identity* during the floods and currently ("Did it feel like everyone was in the same situation", "do you still feel the sense of togetherness with those affected"), *sense of community* then and now ("Was there a sense of community at any time?", "has this sense of community changed since then"), *coordinated activity* ("Did people act in an organized way"), and *social support* ("Did you receive any support, material or emotional").

After all interviews were transcribed, we read the material thoroughly. Our focus for this paper is on a preconceived and theoretically-derived topic (“*how do shared identities persist or decline in the post-disaster period*”). Thus, we have used a deductive thematic analysis (Braun & Clarke, 2006) in which extracts are coded based on theoretically-driven themes conceived prior to the analysis. For the purposes of our study we coded extracts in 2 distinct themes: a) the *decline* and b) the *persistence* of shared social identities. Similar to previous research (e.g. Drury et al., 2009b; Ntontis et al., 2018b: Chapter 3), as indicators of shared identities we treat instances in which participants discuss experiences and situations in terms of unity, feelings of togetherness, and a sense of community.

4.4. Results

Our results are split in two sections: In the first section we focus on participants who mentioned that the togetherness that emerged during the crisis faded in the aftermath of the disaster. In the second section we focus on participants who stated that the community spirit persisted in the long-term aftermath after the floods. In both cases we try to identify the factors that aid in the sustenance or decline.

4.4.1 Fading of shared social identities

In this section, we examine why the togetherness which emerged during the York floods did not persist over time. From our sample, 8 participants mentioned that the community spirit that emerged during the floods is not operating anymore (see Table 4.1). Some participants stated that the sense of togetherness faded over time:

Absence of shared experience.

E: why do you think this [people coming together] happened?

P10: it's called the blitz spirit, I'm sorry but this is all I can put it down to, it's just a thing that we realized we had it in World War II, when Londoners got bombed, instead of you know leaving each other to it and stuff like that, no, they came out with cups of tea, you know you've lost all your clothing 'oh here there is a coat for you' they call it the blitz spirit and that is basically, that is all I can put it down to, it's no, you know it'll happen in all communities all over the world, eh, Mexico [sic; Chile], when the miners were stuck in the mine, all people came together, now half of those people won't even talk to each other, yeah, it's just the way it is you know. During a crisis we band together, unfortunately after the crisis is over we disband and go our own ways again you know.

P10 stated that he felt as being member of the community during the crisis, and drew on the well-known cultural repertoire of the English 'Blitz spirit' (Furedi, 2007) to represent this emergent togetherness first as an English trait, and then as a universal trait ("in all communities"). However, it was common that our participants mentioned that this sense of togetherness fades away over time, with P10 depicting this gradual decline in unity as a universal process that occurs in various communities ("Mexico ... won't even talk to each other"). In SCT terms, we see that psychological changes such as these occur due to changes in the comparative context; the crisis and shared adversity causes people to draw together ("the whole thing was dependent on the immediate crisis"), but the latter lack of main event which brought people together can cause this sense of togetherness to fade ("after the crisis is over we disband and go our own ways").

Similar was the case of P6, a member of the Travelling community in York. P6 initially stated that she experienced the breaking of pre-existing group boundaries and

the appearance of a larger community, which was largely based on common suffering due to the large impact of the event: *“I think because there’s so much of the city that was affected, that people were just looking at the city as a whole and everybody living in it, rather than specific communities, so even though we’re gypsy Traveller, we were seen as York residents and we lost that, we became a whole community instead of a small community within.”* However, when asked why this sense of togetherness changed, she responds: *“because that crisis isn’t there anymore [...] once the houses, people started going back into their own houses and homes and things, then York became separate again, it is a small community so there was at the [anonymized] area, [anonymized] area, gypsy Traveller way through, and are always the groups that most in need and less included.”*

This account is in line with existing literature on how the absence of the main event and subsequent common suffering cause the decline in a sense of unity and the re-appearance of pre-existing group boundaries (Fritz & Williams, 1957). Even though P6 did experience this emergent unity, differences in the recovery period for the different groups involved (e.g. between settled residents and Travellers) made her perceive a decline in the previous sense of community spirit. The extract is also in line with literature that points out to the fact that neither suffering (Norris & Kaniasty, 1996) nor social support (Kaniasty & Norris, 1995) are equally distributed during disasters. P6 brings up issues of exclusion and need of support regarding the Travelling community after the flood; however, such problems were not faced by the settled residents who “started going back into their houses”, which caused the decline in perceived togetherness. For other participants, the disappearance of the community spirit depended upon the observed post-disaster treatment and perceived inequalities in it:

Observed inequality of treatment as hindering community togetherness.

E: why not [did you not feel connected]?

P7: I don't know, because we keep yourself to yourself, I suppose someone's gonna look back and think 'well the brigade never come to us' because there was after your own people' ((laughs)) I know it sounds silly.

P7 is part of the Travelling community in York, and she was among participants who experienced an emerging togetherness due to the crisis. However, she also was amongst those for whom this feeling of unity stopped after the immediate impact. This feeling is attributed to unequal treatment during the response period after the floods ("brigade never come to us"). Thus, while common fate can operate as a mechanism for unity, previous group boundaries can still become salient when differences in the response period are perceived in social identity dimensions ("us", "your own people") and cause a decline in the sense of togetherness. Other participants describe the following lack of togetherness in terms of more detailed identity processes:

Change in salient identities.

E: why do you think it went away?

P14: people refocus ahm, they get back their sense of the rest of their lives, ahm, you're no longer primarily a flood victim, you got other things happening so you can't, no it's not, can't be a vocation, it can't be your primary identity, not for very long, and that depends on your circumstances, so if you got small children you might find you have a lot more continuously in common with other people who got small children, ahm, I think some of the other factors, and then it differentiates more and more, some people are back after three months, some people after 6 months, some people not back for a year or 15 months, ahm, so yes divisions emerge, differences emerge, not divisions necessarily, and there will be

different, you can still compare notes, you still say “did your insurance company gave you the replacement cost of everything you lost” and so on, “is your builder doing a competent job” and that kind of thing.

Here we see how the floods can cause one to identify as a flood victim. However, in the long-term aftermath of the disaster this ceases to be the main way of conceptualizing oneself. This is represented as dependent on one’s “circumstances”, conceptualised as different interests and identities unrelated to the floods (e.g. if you got small children ... more continuously in common with other people who got small children”). Moreover, suffering in disasters is not equally distributed, which is described by the participant in terms of group divisions, as well as differences in terms of relocation time and amount of damage. Thus, changes in the immediate and post-disaster contexts can cause identity shifts in disaster survivors. After the floods, survivors are positioned in fragmented ways, since people’s needs and recovery time are likely to vary. Inevitably, this can cause the salience of different social identities for different people and the subsequent decline of the previous operant shared identity.

4.4.2 Persistence of emergent shared identities.

In the previous section, we focused on accounts that show the fading of the emergent shared social identities. However, 11 participants in our sample claimed that the community spirit persists until today (see Table 4.1). Thus, in this section we seek to examine some of the factors that aid in the sustenance of this emergent sociality.

Previous shared experience.

E: so back then did you also feel a sense of togetherness with the others?

P2: yes, definitely, yes, yeah.

E: why do you think this happened, how did it come up?

P2: oh, I think then you have a common thing like that happen to you, then people, it brings people together really so it makes people care about each other and you know it was a big disaster, and sort of 600 homes got flooded, I think it was something like that and you know it brings communities together to try and ehm, solve the problems that it causes.

E: and do you still feel this sense of togetherness with the people that were affected?

P2: yes, definitely.

E: why do you think this lasts?

P2: ehm because I think you create a bond with the people and they, that, you know when you've been through something that's been very tough and you create a bond with people that have been through it also, I think that's why it's lasting.

This extract is a typical example of how some participants talked about the emergence of the community spirit. A sense of togetherness was present during the floods, which P2 attributes to the shared experience that draws people together and makes them offer support and organise a response. P2 also responds positively about whether this sense of togetherness is still present. In his account, it is previous common fate and the strength of the shared distressing experience (“through it also”, “very tough”) that bring people together in the aftermath of a disaster (“you create a bond”) and makes it last through time (“that’s why it’s lasting”). In the next extract we note the role of everyday communication in the sustenance of the sense of togetherness:

Shared experience as the basis of communication.

E: Umhm, so at the point of the disaster, did you feel a sense of togetherness with the people who were around?

P1: No, yeah, I probably did actually, I think ehm, looking back I probably did

E: yeah, so with who was it, was it the neighbours, was it someone else?

P1: the neighbours I think, ehm. Neighbours who'd been, cause everybody had been, mostly they'd been in their houses, in, gone through it, so we'd all come off at the same time, got off the boat at the same time, I think we were all kind of complete in shock and complete disbelief, ehm so yeah we did, and that was our neighbours

E: I see. And do you still feel a sense of togetherness with the people who were affected?

P1: Yeah I do actually, I do, I, ehm, I met somebody at the dental surgery two weeks ago and I hadn't seen them for ages and I just found myself, I mean he's a lot older than me, in his 60s, and I gave him a huge big hug and said it's so lovely to see you, I missed you ((laughs)), which is ridiculous cause it's not that we share a piece of our lives you know, a main piece of our lives, but I do think they had a hard time, we had a hard time, I kind of can very very much relate to that.

E: mhm, about you though, why do you think everybody is closer together now?

P1: because I think we have shared that common experience, and quite traumatic experience, so ehm it's something, I think this is such a massive part of your life and such a massive ordeal that when you do see people you actually want it's, it's quite nice seeing people who had to go through the same experience because you just think "I can actually talk about it to someone who's completely understanding"

P1 offers a more detailed account of how the sense of togetherness emerged during the disaster. In her description, she says she felt at one with her neighbours because of the shared impact of the disaster (“everybody had been”), and because they all went through several common stages of reactions; everyone was in the same position before the disaster (“in their houses”), experienced the same immediate flood experience (“gone through it”), went through a similar response and rescue process (“come off at the same time”, “got off the boat at the same time”), and shared similar emotional reactions (“shock”, “disbelief”); moreover, her account is formulated under an inclusive “we”, which emphasises the shared nature of the disaster response and reaction (Ntontis et al., 2018b: Chapter 3).

When asked whether this sense of togetherness is still there, P1 responds positively and describes positive feelings that came up during a meeting with another flood survivor, which is traced back to sharing a common distressing experience (“we had a hard time”, “we have shared that common experience”). P1 also emphasizes how the common suffering and sense of togetherness fosters communication between flood survivors since they can understand her experience (“talk about it [...] completely understanding”). Thus, enhanced communication can be an outcome of shared identities in the post-disaster period. Inevitably this brings up the interplay between communication and shared social identities, which we explore further in the following extract:

Reminders of the event as re-fostering the sense of togetherness.

E: so is there still today some sense of togetherness between people?

P11: ehm, yeah, I think so, oddly came back a little bit, probably it was a bit, you know, I think it was the early part of December when the Foss started rising again, that pulled people, cause the conversations I've had, just by going into the corner shop and [name] from the corner shop was saying 'I've had so and so and so and so' [people coming over] and everybody's talking about the same thing, we are all talking about, and I said, I did have a conversation [inaudible] the river and of course it wasn't anywhere near, cause it was just the normal level of flowing, but I think a little bit more cohesion just because of the common experience.

Here we also point to the importance of communication, although from a different perspective; P11 is positive about the persistence of a sense of unity, though with some doubts ("yeah, I think so"), and mentions that what seems to sustain togetherness is episodes of rain and subsequent conversations around them. Fears of reoccurrence have been classified as secondary stressors that can cause distress to flood survivors (Lock et al., 2012). However, we note that communication between residents during reminders of previous floods can operate as re-fostering the sense of togetherness. Thus, events like the precursors of the 2015 floods ("Foss started rising *again*") drew residents together ("pulled people", "a bit more cohesion") and fostered discussions between them about a possible reoccurrence of flooding.

In the following extracts, we see that the sense of community and togetherness may be sustained by everyday communication or subsequent weather instances, which act as reminders of the event, but is rather actively pursued by some community residents.

Sense of togetherness as enhanced through anniversaries and gatherings.

E: so do you still see this togetherness?

P16: I do, yeah, where we, cause where we live now it's quite a lot of students so like next door there's about, next door there's a lot of students, [inaudible] and they're new, they're new people in, so I think you don't get from them, but the other ones of us that lived here like the lads in the corner and the lads over the road, yeah there is, it's quite nice, and what we did on Boxing Day this year, we all met you know where the Flossy's was, where they did the, the coffees and things, we all met there, we all took a bottle and all had a little toast together and that was really nice wasn't it? And everybody that was flooded met there and that was Boxing Day and I think that a really nice thing to do

E: yeah, what is the thing that sustains it though over time?

P16: whether it will I don't know, the little, you know the little community shop?

E: yes

P16: they've done a lot for like raising things and funds and things and they've gone around organizing the street party so I'm hoping that'll be even nicer, that we'll have a street party that'll bring it all together again

And similarly, from another account:

P17: yes, ok, and we all went to that piece of ground with a glass and a bottle of champagne and we had a chat and raised the glass, but it was bluing cold and I had a house full of family and friends anyway so we spent about half an hour also chatting and then we came back, but that was quite nice and I think it's still there, "alright we're all busy with our work, our hobbies and whatever, but we still have that underlying core of the community that we developed during the floods"

E: I see, why, why is it sustained?

P17: ehm I think because we were all brought together, we were all made to realise that we are very similar in many ways, although we are very different, we are very similar, and so this is our little place, this is us and this is where we belong. We did actually want to close the road and have a street party, but the council weren't very keen on that

In both extracts we see that the community spirit can also be actively sustained through residents' meetings during the anniversary of floods, where the community feeling is actively pursued. Both participants mention how they gathered together with other neighbours to celebrate the anniversary of the floods, which fostered communication between them. For both participants, this is described as a positive experience, and in his account, P17 describes this meeting as a validation that the continuity of the community spirit is ongoing despite the re-emergence of everyday routines ("busy with our work...during the floods").

It is interesting to see how the sense of togetherness is seen to continue only among people that shared the flood experience. For P16, the meeting only drew together residents who "lived here" when the floods occurred, rather than the students who regularly move in and out of the area, while P17 discusses the togetherness among people who shared the flooding experience. Moreover, such meetings also operate as platforms for future organisation, like having future events like street parties which will re-draw people together.

It is also worth noting the important role that place plays in sustaining shared identities. P16 mentions that the resident anniversary meeting took place in the area where Flossy's operated, a community café that ran for a long time after the floods and

offered free food to the builders working in the surrounding area. It was also close to the local corner shop, which was an unaffected place central in the flood area, the owners of which assisted in gathering money for the flood survivors. Similarly, P17 discusses their shared community identity not only in terms of a shared experience, but also in terms of place and belonging (“our little place”, “where we belong”), constructed in terms of an inclusive “we” which allows him to grant oneself the identity of a community member. The sense of place can be crucial for wellbeing (e.g. Walker-Springett, Butler, & Adger, 2017), and here we make the case that specific landmark places and activities can also act as sustaining a group identity. Next, we show how emergent shared identities foster ongoing provision of social support and enhancement of social capital:

Shared identities as the basis of ongoing social support.

E: in terms of collective support is it still going on?

P13: I think it is, I think it is, but I think it is very much in a sort of individual level, and you know sometimes you sort of pick up messages from people or in Facebook ‘I’m not feeling too great today’ and somebody else will pitch in and say ‘I’ll bring you a cup of tea’ and that kind of thing, ahm, you know [inaudible]. We found in a way our own little support network, ahm, that’s you know, a personal friendship that’s grown out of it, there’s other, and it tends to be women of a certain age like myself, you know, I know we’re terrible aren’t we? Dreadful, but we’ve got our own bonds of friendship so we support each other, and we support each other not just in terms of dealing with the aftermath of it all, but you know in as I said day to day life, you know my own circumstances are that the most incredible amount of help from people that I met during the floods, you

know principally I met another lady who you know were just being incredible, so yeah we're providing support to each other still I think, yeah

Here we see that widespread collective support stops operating after the immediate crisis is gone and is replaced by smaller-scale support at the individual level. The sociality that emerges during the floods can bring previously unaffiliated people together in support networks, which can evolve and stabilise over time ("a personal friendship that's grown out of it"), as well as persist in contexts outside the immediate one ("in as I said day to day life") and enhance the provision of support ("were providing support to each other still I think"). Thus, we suggest that emergent shared identities can foster the creation of social capital in the aftermath of disasters, in the form of new and more dense networks of support. However, we can notice the opposite relationship, in which providing social support can play a role in sustaining a sense of togetherness:

Ongoing social support as sustaining a sense of togetherness.

P12: and we were really kind of humbled by that [a £200 cash payout from a charity to all flooded residents] because it was so [inaudible] we didn't expect it at all, ehm, especially after you know a few months we kind of thought that was it, you know, we were, we got what we were gonna get and we had just kind of make the best of it and then in ehm I'd say October, it might have been later, it might have been November, this one just gone, we got another eh £200 from the same charity group, which again we didn't know it was coming, it just showed up in my bank one day and I was like 'where did this come from' so that was like, that was you know incredibly touching really because we didn't expect it, and I still don't

really know where the money came from except that it was, I think there was a donation page set up on their website and that, and that I think was the [inaudible] of it but that that kind of stuff makes you feel you're part of a collective, but then you get the, this official side, the government and the council which makes you feel you're kind of left to deal with it on your own, it's a weird sort of position, you kind of get a bit of both.

Disasters mobilise social support towards people who are affected, and research has already focused on the problem of convergence and the enhancing role that group memberships can play in donations (Zagefka & James, 2015) and in the provision of social support (Ntontis et al., 2018b: Chapter 3). However, we also note a relationship that complements previous findings, in which the presence of social support can assist a sense of togetherness to persist. P12 discusses an incident in which he and his neighbours all received a donation of £200 from a charity shortly after the floods; almost one year later they once again received a similar amount of money from the same charity. This gesture is described as generating positive feelings (“incredibly touching”) due to its unexpected character, but, most importantly, it is described as creating a sense of togetherness. Thus, it is likely that the constant provision of social support can be a factor that sustains shared identities over time, since others’ behaviour towards recipients can inform them that they are regarded as part of an ingroup. The charitable donation and the subsequent validation of the availability of support are contrasted to the response from the official agencies (“council”, “government”); their lack of support is described by the participant as generating a sense of isolation and lack of support (“you’re kind of left to deal with it on your own”).

4.5 Discussion

In this paper, we sought to examine the factors that aid in shared identities' persistence or decline after the disaster and attempted to answer this question through an interview study with residents of York, UK, almost 15 months after the December 2015 floods. A distinct contribution of our paper is the explanation of how communities persist or decline in the aftermath of disasters by drawing on the tenets of self-categorization theory in social psychology (Turner et al., 1987), while building upon previous work on the decline of post-disaster communities (Kaniasty & Norris, 1999).

A common way in which our participants conceptualised declines in unity was because of a lack of common fate; adversity and common fate can bond people, and the lack of such a comparative context against which people unite can break down the sense of unity. The sense of togetherness can also dissolve when provided support is perceived as unequal and based on group-level distinctions. Importantly, while flood survivors are likely to experience themselves as suffering in a similar way closer to the disaster, the post-disaster period can find residents recovering in different ways, which can also alter their perceived sense of unity. The re-emergence of everyday events bears with it changes in the context of survivors' lives, which in turn can cause previous salient group identifications to decline due to the re-operation of people's multiple social identities. Thus, the lack of a flood and the subsequent decline in the salience of flood identities can make the community spirit disappear.

Importantly, we extend such findings by showing how shared identities and hence disaster communities can persist over time. One basic factor that assists in their maintenance is the strength of the bonds that have been created between people due to the shared distressing experience of the floods. This phenomenon has similarly been theorised by identity fusion theorists (cf. Gómez & Vázquez, 2015; Jong et al., 2015) in

which a shared intense negative experience can cause a '*visceral sense of oneness with the group*' (Jong et al., 2015, p. 1). These bonds can continue to operate in the aftermath of a disaster and assist in the maintenance of the sense of togetherness.

Communication between flood survivors can also be crucial in maintaining the sense of togetherness. Research has shown how instances of intense rain after a flood event can operate as secondary stressors that cause anxiety and stress to people due to fears of recurrence of the main event (Lock et al., 2012). We show that, when the main event becomes salient again through reminders such as instances of heavy rain, communication regarding the event can cause shared identities to re-emerge. We also note the opposite relationship though, in which the common distressing experience and shared group identity can enable communication between people. Thus, we see that social interactions can be both an antecedent as well as an outcome of group identities.

Shared identities need not only continue operating passively over time, but they can also be actively pursued by residents. Ntontis et al. (2018b: Chapter 3) mentioned how the community spirit can be strategically constructed through discourse, and we advance such findings by showing how the sense of togetherness can be consciously enhanced through social events like commemorations and anniversaries. Disasters seem to break previous group boundaries and bond people together in an emerging solidarity (Ntontis et al., 2018b: Chapter 3; Solnit, 2009), but in the aftermath of events, the pre-existing status quo and routines appear to start operating again. Thus, participants mention how, despite going back to their routines, they still gathered one year after the floods to celebrate the community that was developed during the floods and make future plans for celebrations. It is also important to note that events of this kind are inextricably linked to space; certain places operated as centres for the emerging communities, around which support was mobilised and goods were gathered and

distributed both directly and the months following the floods. In turn, these places acted as anchors of those shared identities by operating as the space in which residents chose to celebrate the anniversary of the flood.

The presence and persistence of social support also appears to be crucial to the maintenance of the sense of community. Previous research has identified the important role of social identities in donations, which can be greatly increased if donors perceive survivors as members of an ingroup (e.g. Zagefka & James, 2015). Moreover, shared identities in disasters can enhance provision of social support (Ntontis et al., 2018b: Chapter 3). Here we note the reverse relationship: residents who received a donation in the longer-term aftermath of the event reported feeling an enhanced sense of togetherness and community presence, while reported feeling let down by the lack of support from the local authorities and the government, which was initially considered as its supposed provider. Thus, we make the case that the persistence of donations and the presence of social support in general can be a factor that assists in increasing people's perceptions of the presence of social support and crucially in continuation of community spirit in the aftermath of floods: others' (supportive) actions towards us can tell us that we are members of the same group.

Inevitably, our work has weaknesses. It is a first attempt to uncover the processes that occur in relation to shared identities in the aftermath of floods and so our findings should be treated with caution. One limitation is that our cross-sectional design does not allow us to investigate social identity processes over time within the same sample, so future research should attempt to sample the same population longitudinally. Moreover, the limited number of participants that interview studies inevitably engage means that other participants might give different or even contradictory accounts to these. Moreover, even though we sampled residents from various areas of York, participants

were self-selected and residents from missed areas might have also given different accounts. Thus, future research should incorporate more robust sampling methods in terms of areas of residence and demographics. Additionally, our self-selected sample poses the risk that more community-oriented participants decided to participate in the study. Thus, future research investigating social identity processes should adopt a survey design that will sample residents from a larger area, thereby overcoming the sampling limitations of qualitative studies.

Overall, our paper is a social psychological attempt to investigate social identity processes in the long-term aftermath of floods. The damage of floods can persist for a long time after the immediate impact (Stanke et al., 2012), and negatively affect mental health (Tempest et al., 2017) which is also evident in the case of the floods in York, where mental healthcare is still needed almost 1.5 year after the disaster (YorkMix, 2017). The emergent sense of togetherness can be crucial to providing support to affected people, and we have pointed to some factors that assist in maintaining that support or promote its decline. We hope we have demonstrated the importance of social psychological research on group processes for the field of disaster studies, as well as for the resilience of communities and their members.

4.5.1 Practical implications

There are increasing calls for the consideration of emergent groups in disaster policy and practice (Strandh & Eklund, 2017; Waldman, Yumagulova, Mackwani, Benson & Stone, 2017), and social psychological research has demonstrated how such groups emerge (e.g. Drury, 2012). Since such groups provide the necessary social support, we argue that their maintenance is crucial for the recovery period of disasters, in which secondary stressors are more prevalent. The important role of communication

and the sense of place which can assist the continuation of shared social identities should be considered by policymakers working on emergency response, not only because of their importance in the acute phase of disasters, but also because they can operate as platforms upon which social capital can be created or enhanced.

Some residents stated that certain authorities were against them organising such events, but we argue that, rather than blocking, authorities should promote and assist in organising and conducting community events for two reasons: first, enhancing community spirit can be crucial to maintaining social support and perceptions of its existence, and, second, community events can also operate as platforms for residents and authorities to come together, providing the latter with a chance to demonstrate their future plans and preparedness. Moreover, we deem it necessary for the authorities to support community hubs that emerge during the disasters.

Notwithstanding the limitations of our study's design, we conclude by suggesting that policymakers should consider in their guidance documents the emergent groups of people that form during floods, and their importance for facilitating social capital in the aftermath of disasters. Moreover, authorities should facilitate continuity of emergent community spirit by assisting residents to organise events that bring communities together and foster communication between residents.

Chapter 5

Paper 4 – How shared social identities emerge and decline following a flood disaster – and the conditions that sustain them.

Cite as:

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disaster – and the conditions that sustain them.

5.1 Abstract

Shared social identities can emerge within disasters and positively affect people's collective psychosocial resilience. However, the question of how emergent identities change in the period after their emergence has not been given enough attention in the social psychological literature. Using data from three cross-sectional surveys conducted with a post-flood community, we first replicate previous findings showing how common fate predicts social identity, and how social identity and observed social support predict the provision of social support, shared goals, expected support, and collective efficacy. Second, we analyse how social identities decline 15 and 21 months after the floods as common fate becomes a weaker predictor of identity. Third, we demonstrate how communication between community residents can sustain identities post-flood. Last, we show how shared identity and expected support can predict wellbeing during the recovery phase. These findings have implications for social psychological theory of groups and social identities, policy, and practice.

5.2 Introduction

Disasters and mass emergencies are often characterised by a spontaneous sense of togetherness, cooperation, and the provision of social support (Fritz & Williams, 1957; Quarantelli, 1984; Rodriguez, Trainor, & Quarantelli, 2006; Solnit, 2009). Social psychological research suggests that a key psychological mechanism that can explain emergent disaster communities and the spontaneous solidarity that can usually be observed in such incidents is shared social identity (Drury, 2012, 2018; Drury, Brown, González, & Miranda, 2016; Drury, Cocking, & Reicher, 2009b). However, emergent disaster communities can fade rapidly after the direct impact phase (Fritz & Williams, 1957; Quarantelli, 1999; Quarantelli & Dynes, 1977), but, to our knowledge, the question of how emergent shared social identities in relation to disasters change over time has not been addressed in the social psychological literature. We consider that a closer look to the social identity processes that aid in the decline of emergent groups is crucial, since their presence and the social support they render available can be very important for survivors in the recovery period. Based on the above, in this paper we use the social identity tradition as our theoretical framework to investigate how shared community identity emerges during a disaster, how it persists or declines in the long-term aftermath, and how it is related to residents' wellbeing. We argue that answering these questions can offer us insights both on disaster communities and the trajectory that emergent groups follow in general.

5.2.1 Emergent groups in disasters and community identity

Disasters usually hit populated areas (Quarantelli, 1999) and can affect large numbers of people. However, generally speaking, irrational and individual behaviours like “panic” are rare phenomena in disasters (Fritz & Williams, 1957; Quarantelli,

1999); on the contrary, there is an upsurge of cooperation, solidarity, and social support (Fritz & Williams, 1957; Kaniasty & Norris, 1999; Rodriguez et al., 2006; Solnit, 2009).

In the social psychological literature, emergent solidarity has been explained through the social identity model of collective psychosocial resilience (SIMCR hereafter; Drury, 2012; Williams & Drury, 2009, 2010). SIMCR draws on self-categorisation theory (SCT hereafter; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) and argues that the sense of common fate shared by survivors during disasters can act as comparative context against which they can come to perceive themselves as sharing a social identity (Drury 2012, 2018). Thus, common fate can make survivors shift from seeing themselves as individuals (“I”) against other individuals (“them”) to perceiving the context as survivors as a group against the disaster. Shared social identity, in turn, can have several positive outcomes such as higher expectations of support, enhanced coordination and motivation to provide social support, and increased trust and collective efficacy; the belief that they could act with others to change their situation (Drury, 2012).

Evidence that supports the model comes from various disasters and mass emergencies including sinking ships, stadium disasters, bombings, fires, and massive crowd events (Drury, Cocking, & Reicher, 2009a). For example, experiencing shared danger made survivors of the 2005 London bombings see themselves as part of one group and offer each other social support (Drury et al., 2009b). Similarly, a survey from Chilean survivors of the 2010 earthquake and tsunami (Drury et al., 2016) shows that common fate positively predicted people’s identification with other survivors. In turn, shared group membership predicted the provision of social support, increased survivors’ expectations of support, and enhanced their collective efficacy. Similar findings also

show that sharing distress can make people perceive others as parts of the self, which can lead to one-group representations and higher contact intentions (Vezzali, Drury, Versari, & Cadamuro, 2015).

Group memberships, in general, have been shown to be beneficial for wellbeing since they can provide people with meaning in life, render psychosocial resources available, and are positively related to wellbeing, also termed as the ‘social cure’ approach in social psychology (Haslam, Jetten, Postmes, & Haslam, 2009; Jetten et al., 2012). This is also the case with cohesive and functioning communities, the membership of which can benefit its population. Obst and White (2005) have stressed that psychological sense of community is a crucial feature of healthy communities. For example, identifying with the community is a key mechanism that can improve people’s relations and expectations of support, and identification in disadvantaged and stigmatised communities has been shown to be an important predictor of collective coping, collective efficacy, and wellbeing (McNamara, Stevenson, & Muldoon, 2013). Feeling as one with other community members also seems to be beneficial in that it that it has been shown to reduce post-traumatic stress in the aftermath of an earthquake (Muldoon et al., 2017). Community identification in disasters has also been investigated within the context of SIMCR. Findings confirm previous research and show that several factors, including common fate, perceived injustice and perceived vulnerability can facilitate the emergence of community identity and enhance the subsequent mobilisation of social support (Ntontis, Drury, Amlôt, Rubin, & Williams, 2018b: Chapter 3).

Overall, social psychological evidence drawing on SCT provides the explanatory mechanisms for emergent communities in disasters. Moreover, the literature on the social cure informs us of the positive outcomes of group identification on support and psychosocial wellbeing. However, research thus far has focused on how such groups

converge, and to our knowledge has not paid enough attention to the trajectory that the latter follow in the period after their emergence.

5.2.2 Post-disaster groups, social support, and wellbeing

Communities have been shown to emerge during disasters, but unfortunately, they and the support they mobilise often do not extend beyond the immediate impact phase but decline during the recovery phase. Quarantelli (1999) has observed that, while pre-existing social structures and community problems are usually overshadowed by the upsurge in solidarity, old problems can re-emerge during the recovery period, and the available social support decreases. Moreover, survivors' realisation of the extent of the damage and the deterioration of social support can negatively affect their wellbeing (Kaniasty & Norris, 1993; Kaniasty & Norris, 1999).

Fritz and Williams (1957) have attributed declining solidarity in disaster communities to the absence of common suffering. However, evidence in post-flood communities shows that suffering does not disappear after the immediate disaster impact but can continue through the persistence of secondary stressors (Lock et al., 2012). From an SCT perspective, we suggest that the decline of disaster communities does not occur due to the lack of suffering, but due to the absence of factors that operate as comparative fit against which residents come to perceive themselves as members of a common group (Drury, 2012, 2018). Evidence shows that the absence of shared fate and hence a change in the salient identities following the event is related to the decline of the shared sense of togetherness between community members in a post-flood community (Ntontis, Drury, Amlôt, Rubin, & Williams, under review: Chapter 4). By contrast, the persistence of community togetherness is associated with sustained communication and contact during meetings, gatherings, and anniversaries that can

remind people of their common relationship to the disaster and enhance their sense of belonging to the community (Ntontis et al., under review: Chapter 4). Moreover, the damage to wellbeing caused by the deterioration of social support can be tackled through the continuation of the provision of social support (Norris & Kaniasty, 1996).

In general, little social psychological evidence exists concerning the psychological mechanisms underpinning the change of emergent disaster communities over time, since most research focuses on the operation of emergent togetherness in the acute phase of emergencies. In this paper, we are concerned with how shared social identities emerge and change in the months following a disaster. Before presenting our theoretical models and findings, we make the case why flooding can be an area that can provide social psychological theory with valuable insights.

5.2.3 The significance of flooding for social psychological research

We argue that investigating floods is vital for several reasons. First, flooding is one of the most significant problems worldwide (Few, 2007) as well as for the UK (Cabinet Office, 2015), and its impact is likely to increase due to the impacts of climate change (Committee on Climate Change, 2012). Also, the damage does not stop when the waters recede but can persist for two years or more due to the presence of secondary stressors. Such stressors arise after the main event and include problems in rebuilding and recovery, loss of possessions and resources, health and family related-worries and education and recreation difficulties (Lock et al., 2012). Moreover, floods can cause a variety of mental health problems including anxiety, PTSD and depression (Stanke, Murray, Amlôt, Nurse, & Williams, 2012; Waite et al., 2017) that have been shown to be present for two years after the immediate impact (Jermacane et al., 2018; Tempest, English National Study on Flooding and Health Study Group, Carter, Beck, & Rubin,

2017; Waite et al., 2017). Last, floods are significant, not only in that the impact phase requires the mobilisation of the wider community, but the persistence of flood damage suggests the need for emergent groups and the social support that comes with them to be maintained in the recovery period.

The extent and duration of the damage shows that flooding is a significant topic for investigation. What is more, as the response involves the mobilisation of communities, it is expected that social identity processes can play a key role in it, with the recovery period being an important terrain that can help us understand the maintenance or decline of emergent groups over time.

5.2.4 Theoretical models and hypotheses

First, we present our theoretical social identity model of collective psychosocial resilience in floods and discuss our hypotheses. Second, we show how common fate and shared social identity can change in the long-term aftermath of the floods. Third, we present a hypothetical model of how communication between community members can sustain the shared sense of togetherness after the floods. We conclude by showing the relationship between emergent social identities in disasters and wellbeing.

5.2.4.1 Social identity model of collective psychosocial resilience (SIMCR) in floods.

A first aim in this paper is to replicate Drury et al.'s (2016) test of the SIMCR in the context of an earthquake with data from residents of a flooded community. We hypothesised that participants' sense of common fate due to the shared distressing experience would positively predict identification with the community (H1). Identification would, in turn, be positively related to people's expectations of support

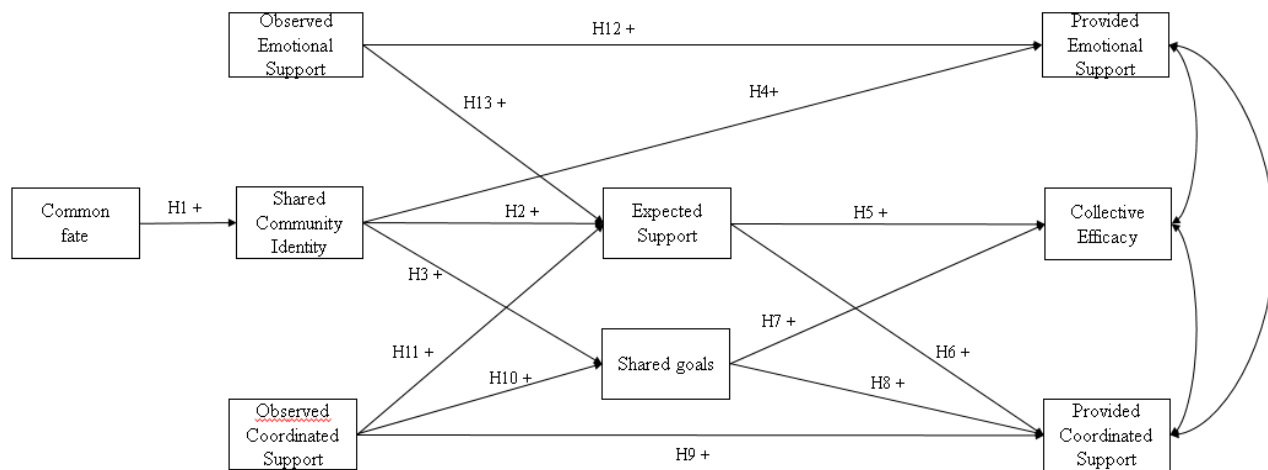
(H2), as well as to the perception that they share goals with others regarding the community's recovery (H3). Providing emotional social support is crucial for the immediate and long-term aftermaths of disasters (World Health Organization, 2011) because those people in need are usually more in number and more dispersed in geographical terms compared to those in need of medical assistance (Shultz, 2014). Thus, based on previous research (Drury et al., 2016), we hypothesised that sharing an identity with others would also be positively related to people's willingness to provide emotional support to survivors by showing care and concern for their needs (H4).

Based on the relational transformations observed in crowd events (Drury, 2012, 2018; Reicher, 2011), we hypothesised that expectations of support from fellow in-group members would be positively associated with collective efficacy (H5), a sense that "we" have the potential to work together for the recovery of the community, and that it would mobilise residents to provide collective support for tasks that cannot easily be achieved individually (Cocking, 2013) (H6). Drury (2018) suggests that cognitive and relational transformations that can be observed in crowd events can enhance collective organisation and the sense of collective efficacy (see also Reicher, 2011). Thus, we hypothesised that sharing goals with other community members would positively predict collective efficacy (H7) and the group providing coordinated support (H8).

Last, in line with previous research (Drury et al., 2016), we measured and included people's observations of others providing emotional and collective support. Considering the "inductive aspect of categorisation" (Reicher, 1984; Turner, 1982), we hypothesised that general inferences of appropriate conduct would be made from particular instances of behaviour during the disaster. Thus, observing others giving collective support would positively predict group provision of collective support (H9).

Seeing others working collectively on behalf of their community would also positively predict people's sense that they share goals with one another (H10) and would also increase expectations of support from those people who were seen as fellow community members (H11). Last, observing others giving emotional support would mobilise people to provide emotional support as well (H12), and would also increase their expectations of support (H13). See figure 5.1 for the full theoretical model.

Figure 5.1. Theoretical model for the SIMCR in floods



5.2.4.2 Post-flood changes in common fate and shared social identity.

Social identity processes in disasters have previously only been investigated at a single time-point, which usually refers to their emergence during the impact phase. Evidence about their decline over time remains qualitative (Ntontis et al., 2018b: chapter 3), and suggests that decline happens due to the decrease of perceived common fate. The second part of our analysis examines how people's levels of common fate, shared community identity, and the relationship between them change in the post-flood period. In this respect, since floods usually affect specific parts of communities but the

response and recovery period also requires the mobilisation of unaffected residents, we consider it important to investigate how social identity processes might differ between flooded and unaffected residents. First, we hypothesised that the overall levels of common fate and shared social identity would be lower for participants sampled at a later time following the floods compared to participants sampled closer to the disaster. Moreover, we expected that this relationship would differ between flooded and unaffected residents, with flooded residents reporting higher levels of common fate and shared social identity due to direct exposure to the event (H14). Second, we hypothesized that the positive relationship between common fate and shared social identity would be stronger for participants sampled closer in time to the floods, and would be weaker for participants sampled in the subsequent survey sessions (H15).

2.5.4.3 Communication and persistence of shared community identity.

Another novel aspect of our study is an explanation of how emergent shared identities can persist in the aftermath of floods, or how the decline can be arrested. Qualitative evidence on the persistence of post-disaster togetherness has shown that ongoing communication between community members can operate as a factor that assists in the continuation of a sense of togetherness (Ntontis et al., 2018b: Chapter 3). We hypothesised that communication with other community members would act as a mechanism that maintains the sense of togetherness 21 months after the floods while controlling for the effects of common fate (H16). Moreover, communication could be the basis through which community members come to expect support from each other, as well as align goals for the recovery period of the community. Thus, we assumed that communication with other community members would predict shared community

identity 21 months after the floods, and this relationship would be mediated by expectations of support from, and shared goals with, other community members (H17).

2.5.4.4 Shared community identity and wellbeing in disasters.

Significant research on disasters has focused on mobilising social support and its effects on wellbeing. In their study on the links between social support and mental health, Kaniasty and Norris (1993) showed how stress due to disaster exposure can increase depression both directly, and indirectly through the deterioration of social support. Moreover, Norris and Kaniasty (1996) have proposed the Deterioration Deterrence Model in which they suggest that increased provision of social support for survivors of disasters increases people's perceptions of the availability of social support, thereby reducing depression. Based on those two models, we propose a social identity explanation of how shared social identities can positively affect wellbeing in the aftermath of floods. We hypothesised that common fate would have an indirect positive effect on wellbeing. This effect would be mediated through the effects of an emergent shared social identity which, in turn, would increase people's expectations of support from ingroup members resulting in a positive impact on their wellbeing (H18).

5.3 Methods

In this section, we present a description of the flooding event and affected community, and details of our sampling method and questionnaire measures.

5.3.1 The Floods in York in 2015

Between late December 2015 and early January 2016, the UK was severely hit by Storm Eva. The storm led to severe flooding in the wider area of Yorkshire, including

Bradford, Leeds, Calder Valley, and York (NHS England North, 2015). Flood warnings for York were issued by the Environment Agency from December 23, and the city was hit on December 24. The rainfall was so intense that, on December 26, the water almost entered the control room of the river Foss barrier. The Environment Agency was forced to lift the floodgate to prevent loss of control over the barrier due to electrical damage, and that action resulted in the surrounding area being flooded. Around 350 houses and 157 businesses were reported as internally flooded, 250 residents were evacuated, and the local Traveller community in St James Street was also heavily affected. A multi-agency response consisting of the City of York Council, Yorkshire Water, the Environment Agency, Fire and Rescue Services, Mountain and Rescue teams, and North Yorkshire police was initiated (City of York Council, 2016). Many volunteers participated in the response, including 250 residents and 25 volunteer groups which assisted in gathering and giving out donations, cleaning, and filling sandbags. The coordination was also enhanced through a Facebook group set up immediately after the floods. The group attracted around 15,000 members and became the basis for the identification of specific needs and the provision of support. The City of York Council also provided some tax exemptions for the affected households and businesses after the event.

In July 2017, 18 months after the floods (and between the second and third survey waves of the present study), there were reports of affected residents seeking mental health support from Citizens Advice York, to cope with the flood damage (YorkMix, 2017). The first author contacted City of York Council and asked for information regarding the present situation. He was informed that evacuated residents returned to their households within 15 months after the incident, and that tax exemptions would be

over by March 2018. We were also told that the Major Incident Response Team provided practical and mental health support to approximately 150 residents.

5.3.2 Participants and procedure

Ethical approval for the study was obtained from the Cross Schools Research Ethics Committee of the University of Sussex. Our target population was identified through a set of postcodes held by the Department of Communities and Local Government (DCLG), and every postcode included at least one affected property. After obtaining the postcodes, the Extreme Events team of Public Health England extracted for us the addresses that corresponded to each postcode. Our final database consisted of 2,959 properties, some of which were affected during the 2015 floods. However, we learned that no record had been kept that listed only the affected households, so we decided to survey the occupants of all 2,959 properties. Each household received one envelope which contained two questionnaire surveys, one freepost return envelope, and an information sheet. A link was also included in the surveys and information sheet, through which participants could fill in the survey online.

The study consisted of three survey sessions. The first session was carried out in September 2016, almost eight months after the floods. Ideally, we would have sent out the questionnaires as close to the floods as possible. However, we decided not to do so, because we became aware (through personal communication with local people as well as visits to the area) that many flooded residents had not yet returned to their houses. For the first session, we sent survey questionnaires to all 2,959 houses via Royal Mail. A one-page letter was mailed to the same addresses two weeks later reminding participants to fill in the paper survey. That communication also directed recipients to an online link as an alternative. The first wave was fully completed by 217 respondents.

It included 27 unaffected participants, 115 indirectly affected (who resided around the flooded area and faced minor disruption without water entering their houses), 70 flooded, and five of unknown flood status.

We conducted the second session in April 2017, almost seven months after the first testing session and 15 months after the floods. We decided to change our sampling strategy for the second session to see whether it would increase the response rate. The first author and an assistant visited the households and delivered questionnaires door-to-door. Participants who were in their homes and who agreed to fill in the survey were informed that they could do so at their own pace, and a suitable day was agreed on when the researchers would pick up the questionnaires. If participants were not home, the survey material was delivered through their letterboxes. The survey was fully completed by 184 residents, 56 of which were follow-ups from wave 1; of these, 35 were unaffected, 82 were indirectly affected, and 62 were flooded. The flood status of five participants was unknown.

In the third session, we sent the survey material to all 2,959 households through the Royal Mail and we sent a reminder letter two weeks later containing the online link for the survey. The third survey session was conducted in September-October 2017, almost 6 months after the second survey and 21 months after the floods. It was fully completed by 136 participants; of these, 25 were unaffected, 73 were indirectly affected, 37 were flooded, and the flood status of 1 participant was unknown. Moreover, 50 were follow-ups from waves 1 and 2.

The survey was anonymous. Therefore, to identify participants over time, we allocated a unique identifier consisting of participants and their parents' initials and the number of their day of birth (e.g. XX-YY-ZZ-30) and included it on the first page of the questionnaires in each of the survey sessions.

5.3.3 Measures

Below are the self-report measures included in the survey. All items loaded on a single factor for their respective scales. For all survey items, see Appendix/Supporting Materials.

Flood status

We used 3 items to measure participants' flood status that were based on previous literature (Tempest et al., 2017; Waite et al., 2017) that splits participants into 3 categories: a) those who were unaffected by the floods; b) those who were indirectly affected and faced temporary disruption like problems with gas, electricity and internet or difficulty in moving around; and c) those who had water enter their house.

Common Fate

Four items were used to assess participants' perceptions that everyone affected by the floods was in a similar position and faced similar problems during the floods (e.g., "*People affected by the flood are all in a similar situation*"). The items were based on those used in previous research (Drury et al., 2016, 2009a, 2009b), and were measured on a 1 "*Disagree Strongly*" to 7 "*Agree Strongly*" scale (Survey 1: $\alpha = .91$, Survey 2: $\alpha = .91$, Survey 3: $\alpha = .91$).

Shared Community Identity

To assess the extent to which participants identified with other members of their community, we used four items adapted from Khan et al. (2015) and Alnabulsi and Drury (2014) (e.g., "*I have a feeling of unity with other residents of the community*"),

which were measured on a 1 “*Disagree Strongly*” to 7 “*Agree Strongly*” scale (Survey 1: $\alpha = .91$, Survey 2: $\alpha = .93$, Survey 3: $\alpha = .91$).

Expected Support

We used three items to measure the extent to which participants expected support from other community members. One item was adapted from Alnabulsi and Drury (2014) (e.g., “*If I need help, other community members would support me*”) and two were our elaborations through previous interview studies (Ntontis et al., 2018b: Chapter 3). The items were measured on a 1 “*Disagree Strongly*” to 7 “*Agree Strongly*” scale (Survey 1: $\alpha = .91$, Survey 2: $\alpha = .93$, Survey 3: $\alpha = .91$).

Shared Goals

We used three items to assess the extent to which residents share common goals and objectives in relation to the floods based on our own elaboration and research by Chow and Chan (2008), based on the model proposed by Drury (2012) (e.g., “*Other community members and I share the same ambitions and vision for the recovery of the community from the flood damage*”). The items were measured on a 1 “*Disagree Strongly*” to 7 “*Agree Strongly*” scale (Survey 1: $\alpha = .92$, Survey 2: $\alpha = .91$, Survey 3: $\alpha = .91$).

Collective Efficacy

We used three items to measure the extent to which people felt they could deal collectively with the aftermath of the disaster. They were adapted from Drury et al. (2016) and van Zomeren, Spears, Fischer, and Leach (2004) (e.g., “*Together with other community members we are able to change the situation*”). The items were measured on

a 1 “*Disagree Strongly*” to 7 “*Agree Strongly*” scale (Survey 1: $\alpha = .82$, Survey 2: $\alpha = .85$, Survey 3: $\alpha = .87$).

Observed Emotional Support

We used three items adapted from Drury et al. (2016) to measure observed emotional support, by asking participants how many times they saw the mentioned behaviours occurring (e.g., “*Give comfort to distressed community members*”). We used a 5-point scale consisting of the following anchors: “*Never*”, “*1 time*”, “*2 times*”, “*3 times*” and “*4 times or more*” (Survey 1: $\alpha = .93$, Survey 2: $\alpha = .90$, Survey 3: $\alpha = .94$).

Observed Coordinated Support

We used four items adapted from Drury et al. (2016) to measure how many times participants saw others providing support in a coordinated way and asked them how many times they saw the mentioned behaviours (e.g., “*coordinate how help is provided*”, “*assist in cleanups of properties and public areas*”). We used a 5-point scale consisting of the following anchors: “*Never*”, “*1 time*”, “*2 times*”, “*3 times*” and “*4 times or more*” (Survey 1: $\alpha = .87$, Survey 2: $\alpha = .88$, Survey 3: $\alpha = .88$).

Provided Emotional Support

We used three items adapted from Drury et al. (2016) to measure how many times participants provided emotional support to those affected and asked them how many times they did the mentioned behaviours (e.g., “*Give comfort to distressed community members*”). We used a 5-point scale consisting of the following anchors: “*Never*”, “*1 time*”, “*2 times*”, “*3 times*” and “*4 times or more*” (Survey 1: $\alpha = .88$, Survey 2: $\alpha = .84$, Survey 3: $\alpha = .90$).

Provided Coordinated Support

We used four items adapted to measure how many times participants provided support together with others. They were adapted from Drury et al. (2016) (e.g., “*assist in cleanups of properties and public areas*”). We used a 5-point scale consisting of the following anchors: “*Never*”, “*1 time*”, “*2 times*”, “*3 times*” and “*4 times or more*” (Survey 1: $\alpha = .78$, Survey 2: $\alpha = .81$, Survey 3: $\alpha = .79$).

Communication with the community

In the third survey session, we used two items to measure participants’ communication with other community members (e.g., “*How often did you communicate with other people of your community during and after the floods?*”) on a scale of 1 “*Never*” to 7 “*Very frequently*” and one item on the quality of communication (“*Please grade the quality of communication between you and other community members*”) which was measured on a 1 “*Very poor*” to 7 “*Excellent*”) scale ($\alpha = .88$).

Psychosocial Wellbeing

We used the 8-item Flourishing Scale developed by Diener et al. (2010) to measure psychosocial wellbeing. It assesses participants’ perceived success in areas including self-esteem, relationships, and optimism. We considered a general wellbeing scale more appropriate for our sample in contrast to a more specialised diagnostic scale on PTSD or depression since we sampled both affected and non-affected residents. The items were measured on a 1 “*Disagree strongly*” to 7 “*Agree strongly*” scale (Survey 1: $\alpha = .89$, Survey 2: $\alpha = .92$, Survey 3: $\alpha = .87$).

5.4 Results

Our presentation of the results is split into four parts. In the first part, we report on our hypothesised model of social identity processes in floods and present a path analysis of the first survey data, which was the closest to the main flood event. In the second part, after showing that the three cross-sectional groups of flooded and unaffected residents sampled at different times after the floods match in demographic factors, we compare how they differ regarding common fate and shared social identity. The third part of this section presents results for the role of communication between community members in sustaining a sense of shared community identity, and, in the fourth part, we present an analysis of how shared community identity in floods can positively affect psychosocial wellbeing.

5.4.1 Path analysis of social identity processes in floods

We used the sample of session 1, which consisted of 217 participants to investigate how the social identity model of collective resilience applies to floods (see Figure 5.1). Table 5.1 contains the descriptive statistics and correlations of our cross-sectional sample. The tables show that the standard deviations for all items are different to zero, with an acceptable level of response variability, and there are positive correlations between the variables of interest in the study.

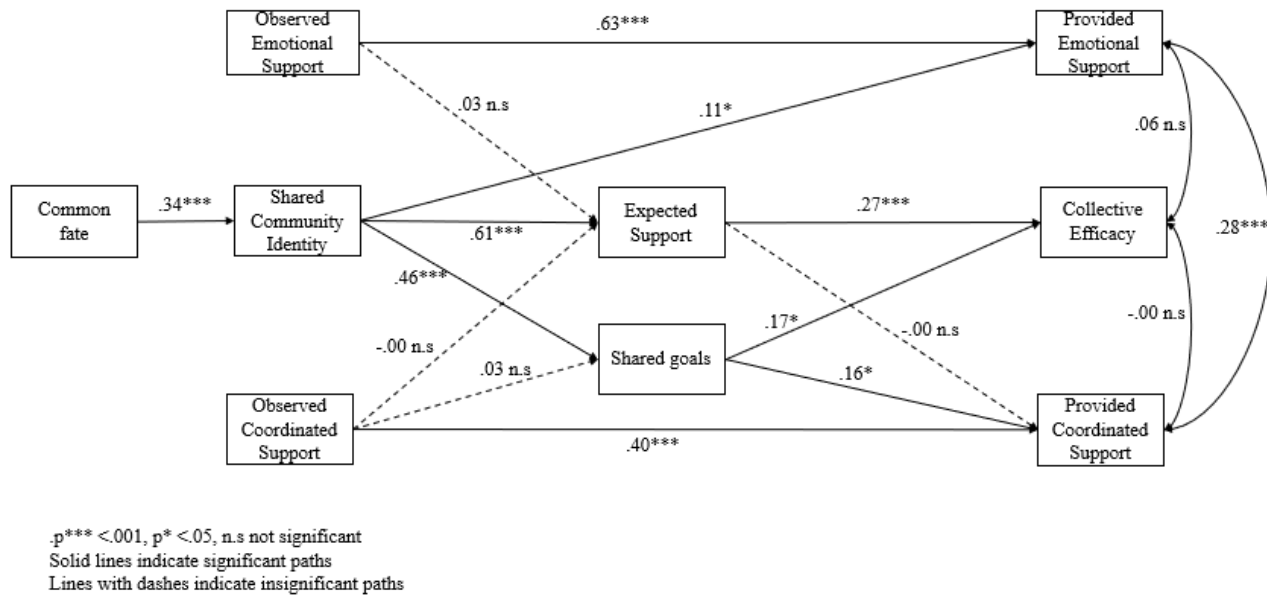
Table 5.1. Descriptive statistics and correlations for participants of survey session 1.

	Mean	SD	1	2	3	4	5	6	7	8
1 Common fate	4.73	1.41								
2 Shared community identity	3.50	1.89	.36**							
3 Shared goals	4.89	1.12	.25**	.46**						
4 Expected support	5.13	1.24	.24**	.61**	.50**					
5 Collective efficacy	3.94	1.22	.17*	.29**	.31**	.35**				
6 Observed coordinated support	2.31	1.35	.14*	.19**	.11	.12	.16*			
7 Provided coordinated support	0.45	0.75	.21**	.22**	.21**	.11	.10	.43**		
8 Observed emotional support	1.33	1.33	.10	.17**	.15*	.14*	.16*	.51**	.25**	
9 Provided emotional support	2.20	1.55	.16*	.24**	.18**	.13*	.17*	.40**	.40**	.64**

** . Correlation is significant at the 0.01 level (2-tailed)

* . Correlation is significant at the 0.05 level (2-tailed).

To see how the model fits the data, we carried out a path analysis using Mplus 7 (Muthén & Muthén, 2012) using the Maximum Likelihood Robust estimation method. First, we tested the full model by including the effects of two control variables (gender, education), on our main outcome variables (collective efficacy, provided emotional support and coordinated support). However, those control variables were not found to be significant predictors in the model, so we did not include them in our final analysis. The path model showed adequate levels of fit, $\chi^2(16) = 21.441$, $p = .16$, CFI = 0.98; RMSEA = 0.04; SRMR = 0.05.

Figure 5.2. Test for the SIMCR in floods

As hypothesised (see figure 5.2), common fate predicted shared identification with other community members (H1; $\beta = .34$, $p < .001$). Shared community identification had several significant associations, confirming our predictions: it positively predicted expectations of support (H2; $\beta = .61$, $p < .001$), shared goals between community members (H3; $\beta = .46$, $p < .001$), and provision of emotional support (H4; $\beta = .11$, $p < .05$). Expecting support from ingroup members positively predicted collective efficacy (H5; $\beta = .27$, $p < .001$), but did not predict provision of coordinated support ($\beta = -.01$, $p = .90$), disconfirming H6. Shared goals positively predicted collective efficacy (H7; $\beta = .17$, $p < .05$), and the provision of coordinated support (H8; $\beta = .16$, $p < .05$). Investigating the associations of observed coordinated support, we found that it positively and strongly predicted the provision of coordinated support ($\beta = .46$, $p < .001$) in line with H9. However, observing coordinated support did not predict shared goals among community members (H10; $\beta = .02$, $p = .68$) or higher expectations of support (H11; $\beta = -.01$, $p = .90$), disconfirming our hypotheses. In a

similar line, observing emotional support was strongly associated with providing emotional support (H12; $\beta = .63$, $p < .001$), but did not predict expectations of support (H13; $\beta = .03$, $p = .63$).

Besides allowing us to calculate the path analysis, Mplus 7 also allowed us to simultaneously test for mediations within the aforementioned path model. Thus, we found that certain variables acted as mediators as expected. Shared community identity mediated the effects of common fate on expected support, $\beta = 0.164$, BCa CI [0.127, 0.290], as well as the effects of common fate on shared goals, $\beta = 0.078$, BCa CI [0.080, 0.234]. Similarly, the effect of shared community identity on collective efficacy was mediated by expected support, $\beta = 0.164$, BCa CI [0.068, 0.261]) and by shared goals, $\beta = 0.078$, BCa CI [0.000, 0.149]), with a significant total indirect effect, $\beta = 0.242$, BCa CI [0.159, 0.325]). Moreover, shared identity and expected support together mediated the effects of common fate on collective efficacy, $\beta = 0.056$, BCa CI [0.017, 0.096]). Similarly, shared identity and shared goals together mediated the relationship between common fate and collective efficacy, $\beta = 0.027$, BCa CI [0.000, 0.053]. What is more, the effects of common fate on collective efficacy were mediated by shared community identity, expected support and shared goals, with expected support and shared goals operating in parallel as seen in figure 5.2, $\beta = 0.083$, BCa CI [.004, .126].

5.4.2 Common fate, shared community identity, and the relationship between the two across the three sessions

Only 26 participants responded to all three testing sessions, which makes a longitudinal analysis impossible. To overcome this limitation, in the second part of our analysis we used a cross-sectional design to compare the three independent samples. We removed from the databases of the three test sessions those participants who appeared

more than once. As a result, we removed from session 2 the participants who took part in session 1 and removed from session 3 the participants who appeared in session 1 and/or session 2. This procedure left us with a total of 217 participants for session 1, 128 participants for session 2 (56 removed), and 86 participants for session 3 (50 removed). Because of a low number of unaffected participants in each sample, we decided to collapse the unaffected with the indirectly affected participants, so that we could investigate any differences between those who experienced water in their houses versus those that did not. Our final sample consisted of 70 flooded and 147 unaffected participants for the first wave, 42 flooded and 86 unaffected for the second wave, and 41 flooded and 45 unaffected for the third. Table 5.2 shows the descriptive statistics and correlations for our cross-sectional samples.

Table 5.2. Descriptive statistics and correlations for participants of the 3 sampling sessions (excluding participants who responded twice or three times).

Survey waves			M	SD	1	2	3	4	5	6	7	8
wave 1	1	Common fate	3.50	1.89								
	2	Shared community identity	4.73	1.41	.36**							
	3	Shared goals	4.90	1.13	.25**	.46**						
	4	Expected support	5.13	1.25	.24**	.61**	.50**					
	5	Collective efficacy	3.94	1.23	.17*	.29**	.31**	.35**				
	6	Observed coordinated support	1.34	1.34	.14*	.19**	.11	.12	.16*			
	7	Provided coordinated support	0.46	0.76	.21**	.22**	.21**	.11	.10	.43**		
	8	Observed emotional support	2.21	1.55	.10	.17**	.15*	.14*	.16*	.51**	.25**	
	9	Provided emotional support	2.31	1.36	.16*	.24**	.18**	.13*	.17*	.40**	.40**	.64**

wave 2	1	common fate	3.66	1.81								
	2	Shared community identity	4.44	1.38	.17							
	3	Shared goals	4.78	1.23	.15	.59**						
	4	Expected support	5.07	1.27	.04	.65**	.60**					
	5	Collective efficacy	4.04	1.28	.20*	.33**	.52**	.46**				
	6	Observed coordinated support	1.10	1.26	.09	.01	.18*	.16	.20*			
	7	Provided coordinated support	0.42	0.82	.19*	.03	.11	.03	.13	.61**		
	8	Observed emotional support	1.79	1.39	-.02	.11	.21*	.23**	.06	.59**	.38**	
	9	Provided emotional support	2.55	1.27	.19*	.16	.17*	.21*	.13	.38**	.28**	.59**
wave 3	1	Common fate	3.59	1.72								
	2	Shared community identity	4.81	1.29	0.16							
	3	Shared goals	4.78	1.14	.36**	.48**						
	4	Expected support	5.06	1.23	-.08	.59**	.33**					
	5	Collective efficacy	3.55	1.49	-.00	.27*	.19	.38**				
	6	Observed coordinated support	0.63	1.01	.13	.16	.39**	.08	.29**			
	7	Provided coordinated support	0.38	0.77	.08	.25*	.27*	.18	.30**	.78**		
	8	Observed emotional support	1.44	1.50	.19	.31**	.31**	.19	.26*	.52**	.42**	
	9	Provided emotional support	1.77	1.32	.19	.36**	.29**	.21*	.21*	.40**	.44**	.68**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

In the first part of this analysis, we wanted to investigate whether people's flood status (flooded vs non-flooded) in combination with the passing of time after the floods (waves 1, 2, and 3) affected the extent to which they perceived a common fate in

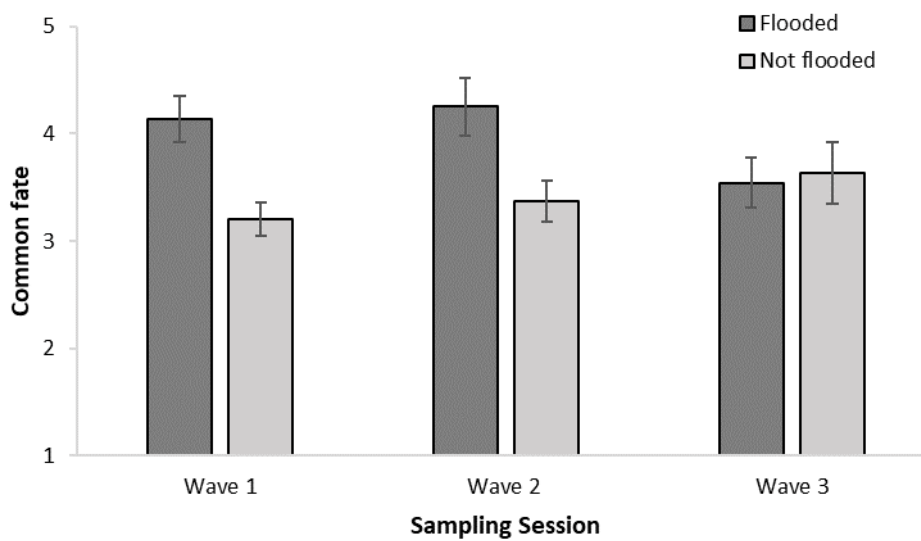
relation to the floods, as well as whether they came to see themselves as sharing a community identity (H14).

Before our main analysis, we wanted to compare our three independent samples in terms of their demographic characteristics. Fisher's exact test to calculate the chi-squares of demographic variables showed no difference in gender $\chi^2(2) = .016$, $p = .998$, years of residence in the community $\chi^2(6) = 9.568$, $p = .138$, relationship status $\chi^2(6) = 6.820$, $p = .303$, flood insurance $\chi^2(6) = .6943$, $p = .316$, or education $\chi^2(8) = 2.499$, $p = .883$ across the three samples. The lack of differences in demographic factors between our three independent surveys allowed for a more precise comparison of the respective levels of common fate and shared social identity.

To examine the main effects of flood status (flooded vs unaffected) and survey wave (survey 1, 2, or 3) on common fate, as well as the interaction between the two variables, we conducted a 2 x 3 ANOVA. The survey wave that participants were sampled on did not have a main effect on perceived common fate, $F(2, 429) = .40$, $p = .67$, $\eta^2 = .002$. However, participants' flood status had a main effect on common fate $F(1, 430) = 8.792$, $p < .005$, $\eta^2 = .020$, with flooded participants reporting significantly higher levels of common fate ($M = 4.00$, $SD = 1.72$) compared to unaffected residents ($M = 3.32$, $SD = 1.85$). We also found that there was a marginally significant interaction between the effects of participants' flood status and the effects of time after the floods. $F(2, 429) = 2.583$, $p = .07$, $\eta^2 = .01$. Analysis of simple main effects showed that unaffected participants of wave 1 ($M = 3.20$, $SD = 0.14$) did not experience significantly different levels of common fate after the floods compared to participants of wave 2 ($M = 3.37$, $SD = 1.78$) ($p = .49$). Also, there was no significant difference in common fate between unaffected participants of waves 2 and wave 3 ($M = 3.63$, $SD = 1.93$) ($p = .43$) as well as between participants of waves 1 and 3 ($p = .16$).

However, this was not the case for flooded residents. While participants of wave 1 ($M = 4.13$, $SD = 1.80$) and wave 2 ($M = 4.25$, $SD = 1.74$) did not report significantly different levels of common fate ($p = .74$), simple main effects analysis showed that there was a marginally significant difference in common fate between participants of waves 2 and 3 ($M = 3.54$, $SD = 1.48$) ($p = .07$) (see figure 5.3).

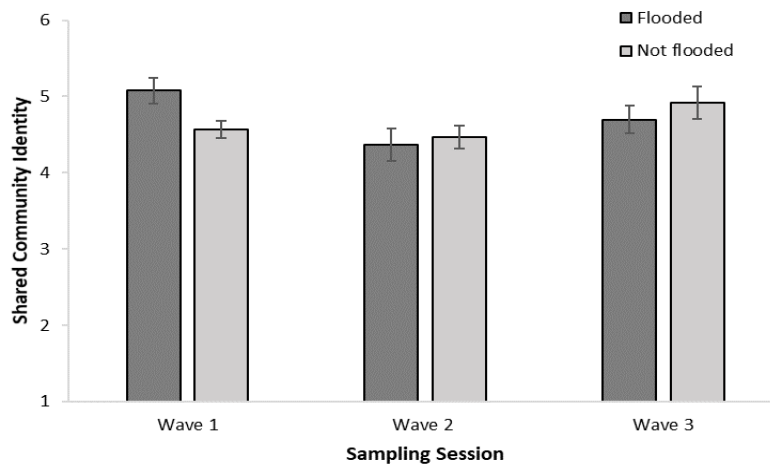
Figure 5.3. Common fate across the 3 sampling sessions



As with common fate, we followed a similar procedure to investigate the effects of shared community identity between flooded and unaffected residents across the 3 cross-sectional survey waves (H14). We conducted a 2 x 3 ANOVA to inspect the main effects of flood status and survey wave on shared social identity, as well as the interaction between them. Participants' flood status did not have any main effects on shared community identity, $F(1, 429) = .15$, $p = .69$, $\eta^2 = .00$. However, the survey wave that participants were sampled in seemed to have a main effect on shared community identity $F(2, 429) = 3.437$, $p < .05$, $\eta^2 = .01$. Following Field's recommendations, due to a large difference in our sample sizes across waves, we used

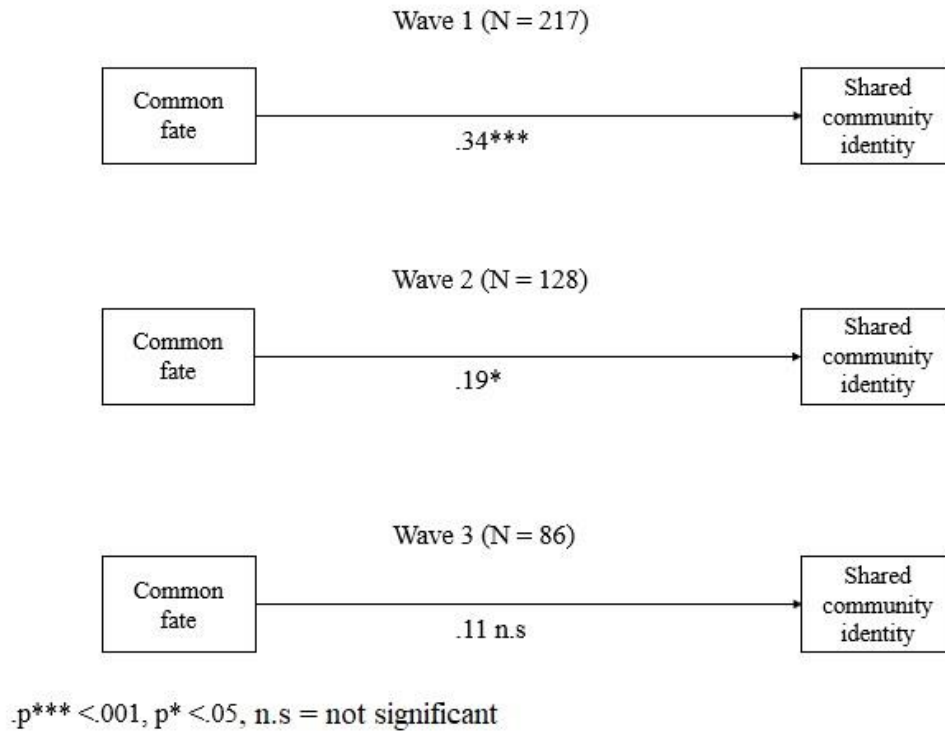
Hochberg's post-hoc test (Field, 2013) to investigate where the significant difference in shared community identity lies between the different waves. However, the post-hoc comparisons between the three testing sessions did not identify any significant differences, which leads us to conclude that the overall means of shared community identity do not significantly differ across the three samples.

The two-way ANOVA revealed a significant interaction between participants' flood status and survey waves on shared community identity $F(2, 429) = 2.873, p = .05, \eta^2 = .01$. We followed this finding with a simple main effects analysis to identify where flood status interacts with the survey waves. The analysis did not show any significant differences in shared community between unaffected residents of wave 1 ($M = 4.57, SD = 1.37$) and wave 2 ($M = 4.47, SD = 1.38$) ($p = .590$), between wave 2 and wave 3 ($M = 4.92, SD = 1.41$) ($p = .078$) or between wave 1 and wave 3 ($p = .139$). However, we found that flooded participants of wave 1 ($M = 5.08, SD = 1.44$) reported significantly higher levels of shared community identity compared to those of wave 2 ($M = 4.36, SD = 1.38$) ($p = .008$). No significant difference in shared community identity was found between flooded participants of wave 2 and wave 3 ($M = 4.70, SD = 1.14$) ($p = .271$) (see Figure 5.4).

Figure 5.4. Shared social identity across the 3 sampling sessions

Next, we compared the strength of a key pathway in model 1 from our first survey session with the strength of the same pathways for our datasets on session 2 and session 3. A main hypothesis of our social identity model of resilience in floods was that perceiving oneself as being in a similar situation with other people in the community during a flood would positively predict the perception of oneself as sharing a common group membership with others, which we already confirmed with participants of wave 1 (see figure 5.2). However, we were also interested in examining whether and how this relationship would be manifested in populations sampled at different times after the floods. In this respect, we investigated the strength of the pathways between common fate and shared social identity in our three independent samples.

Figure 5.5. Differences in the relationship between common fate and shared social identity across the 3 sampling sessions.



We hypothesised that the strength of the association between common fate and shared community identity would reduce with greater time intervals after the main flood event (H15). A Wald test was used in a multi-group regression analysis to test this hypothesis, comparing the strength of the paths across the three samples. As expected, there was a downward pattern in the strength between common fate and shared social identity. For participants in the first survey session conducted around 8 months after the floods, the strength between the two variables was $\beta = .34$, $p < .001$. In the second survey at 15 months after the floods, the relationship was $\beta = .19$, $p < .05$. In the third survey 21 months after the floods, this relationship was $\beta = .11$, $p = .30$ confirming our hypothesis about the downward pattern of the relationship. The second step in our analysis was to test whether there was a significant difference in the strength of the paths; between surveys 1 and 2 there was no significant difference, $WT(1): 1.689$, $p =$

.19. Between surveys 2 and 3 there was no significant difference, $WT(1): 0.282, p = .59$.

Between surveys 1 and 3 there was a marginally significant difference between common fate and shared social identity, $WT(1): 3.299, p = .06$.

5.4.3 Communication between community members as maintaining shared community identity

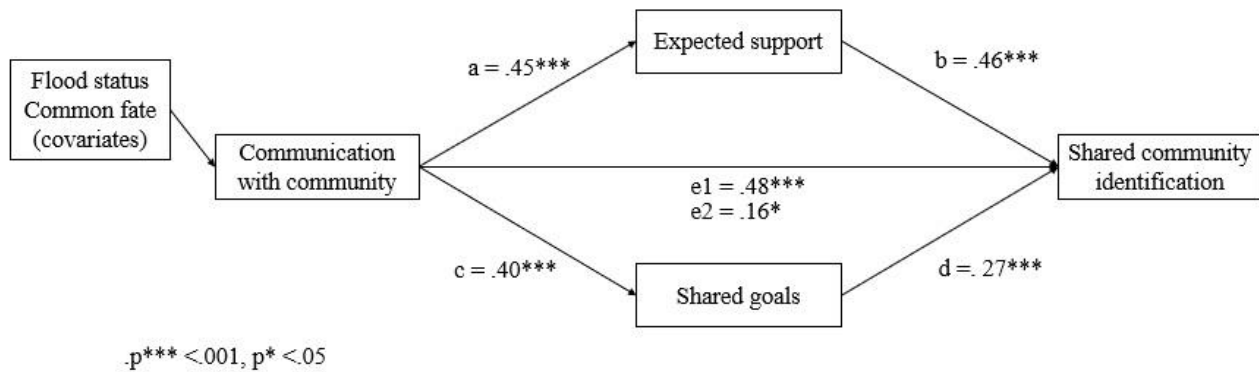
We used only the sample of our third survey session, which comprised 136 participants (25 unaffected, 73 indirectly affected, and 37 flooded residents – the flood status of 1 resident was unknown) to test the role of communication within the community (H16). Table 5.3 presents the descriptive statistics and correlations of the third survey sample.

Table 5.3. Descriptive statistics and correlations for participants of survey session 3.

		Mean	SD	1	2	3	4
1	Shared community identity	4.70	1.30				
2	Shared goals	4.67	1.15	.58**			
3	Expected support	5.00	1.21	.65**	.47**		
4	Communication with community	4.46	1.49	.58**	.58**	.53**	

**. Correlation is significant at the 0.01 level (2-tailed).

To test our hypothesis, we used a mediation model with two parallel mediators using the PROCESS macro (model 4) in SPSS (Hayes, 2013). Communication with the community was an independent variable, shared community identification was the dependent variable, and shared goals and expected support were used as parallel mediators. Common fate and participants' flood status were used as covariates. We used bootstrapping with 5,000 samples to estimate the effects of each pathway, which generated computer bias-corrected and accelerated 95% CIs.

Figure 5.6. Model on the effects of communication on shared community identification.

As hypothesised (see figure 5.6), communication with other community members positively predicted shared goals ($\beta = .40, p < .001$) and expected support ($\beta = .45, p < .001$) (H16). In turn, identification with the community was predicted by shared goals ($\beta = .27, p < .001$) and expected support ($\beta = .46, p < .001$). Communication with the community had an indirect effect to shared community identification both through shared goals ($\beta = .11, 95\% \text{ CI } [.02, .21]$), and expected support ($\beta = .21, 95\% \text{ CI } [.11, .34]$) (H17). Neither common fate nor flood status were significant predictors in the model. Moreover, despite the significant effect of the two predictors, communication with other community members still had a significant, albeit reduced, direct effect on shared community identification ($\beta = .16, 95\% \text{ CI } [.02, .30]$). Communication, shared goals and expected support collectively explained 55% of the variance on shared community identification (see Table 5.4).

Table 5.4. Parameter estimates of the model examining the mediating role of expected support and shared goals in the relationship between communication between community members and shared community identification in participants of session 3.

Path Coefficients						
Outcomes	Variable	Path	B	SE	95% CI	R²
Expected support	Communication with community	a	.45***	.06	[.33, .57]	.33
Shared goals	Communication with community	c	.40***	.05	[.29, .50]	.41
Shared community Identification	Shared goals	d	.27***	.09	[.08, .45]	
	Expected support	b	.46***	.08	[.30, .66]	
	Total	e1	.48***	.06	[.35, .60]	.36
	Direct	e2	.16*	.07	[.02, .30]	
	Indirect	abcd	.32	.05	[.23, .43]	.55

Regression paths a, b, c, d, e1 and e2 are depicted in figure 5.6. The 95% CI is obtained by the bias corrected bootstrap with 5000 resamples. Communication with community was the independent variable, shared goals and expected support were the mediators, and shared community identification was the dependent variable. R² is the proportion of variance explained by the independent and mediator variables.

5.4.4 Psychosocial wellbeing following a disaster

We used the cross-sectional sample of all three survey waves to test whether shared community identity positively predicted wellbeing following the disaster (H18).

See Table 5.5 for descriptive statistics and correlations.

Table 5.5. Correlations and descriptive statistics for wellbeing model on floods across participants of all 3 sampling sessions (excluding participants who responded twice or three times).

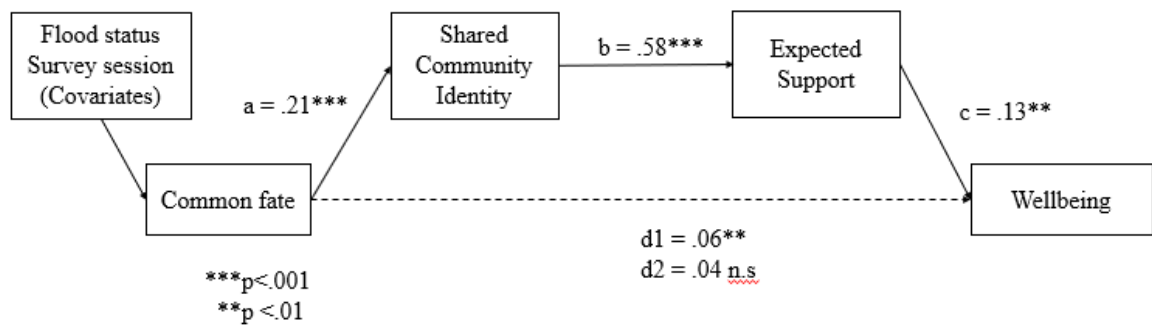
	Mean	SD	1	2	3
1 Common fate	3.56	1.83			
2 Shared community identity	4.66	1.38	.26**		
3 Expected support	5.09	1.24	.12*	.62**	
4 Wellbeing	5.80	0.84	.11*	.21**	.24**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The analysis was carried out using the PROCESS macro (Hayes, 2013), model 6, in SPSS. Common fate was used as an independent variable, shared social identity as the first mediator (M1), expected support as the second mediator (M2) and psychosocial wellbeing as our outcome variable. We also included participants' flood status and the survey session as covariates to see whether one's flood situation or the time of testing would affect the model. We also used bootstrapping with 5,000 samples, which generated computer bias-corrected and accelerated 95% CIs.

Figure 5.7. Model on the positive impact of shared community identity on wellbeing.



As hypothesised, common fate positively predicted shared social identity with others ($\beta = .21, p < .001$). In turn shared community identity predicted expected support ($\beta = .58, p < .001$), which led to increased wellbeing ($\beta = .13, p < .01$) (H18). There was an indirect effect from common fate to wellbeing through shared identity and expected support ($\beta = .02, 95\% \text{ CI } [.005, .031]$) (see Figure 5.7). Participants' flood status and survey wave were not significant predictors of wellbeing. Common fate, shared identity, and expected support explained 8% of the variance on wellbeing.

5.5 Discussion

In the research reported in this paper, we used a flood-affected community as a case study through which to investigate how shared community identity emerges and changes in the months after a disaster.

Our first analysis employed a sample of residents surveyed 8 months after the floods. The path analysis applied to the data was based on the SIMCR and served two purposes. First, it successfully replicated previous findings (Drury et al., 2016) that show the important role of shared social identities and observed social support for the provision of support and on psychosocial outcomes like increased expectations of support, and collective efficacy. However, we also added to this previous research by showing that the model explains support processes not just within the impact phase of an emergency but also in the recovery phase. Second, we built upon previous research on the importance of community identities (McNamara et al., 2013; Muldoon et al., 2017), which we incorporate into the SIMCR and extend to the context of floods. Like previous analysis (Drury et al., 2016), observed social support in our case was a stronger predictor of support provided than was shared social identity. However, unlike previous studies (Drury et al., 2016), observed social support did not predict either expected support, leaving shared social identity as a single, albeit strong predictor of the latter variables. Also, contrary to expectations, expected support did not predict provided coordinated support, but the latter was instead predicted by shared goals.

A novel aspect of our study is the use of shared goals as outcomes of shared social identity. We believe that the high correlation between shared goals and expected support masks the effect of expected support on provided coordinated support, since expected support and shared goals in SIMCR are similar in that they both constitute beliefs about others in relation to the self (Drury, 2012, 2018) rendering a correlation

between the two an expected observation. In line with this, we found that removing shared goals from the model did lead expected support to predict provided coordinated support. Previous similar research only used items on expected support. Thus, our observations help to disentangle the specific effects of shared goals and expected support on provided coordinated support.

The second part of our analysis concerns the levels of emergent community identification in the long-term aftermath of a flood, and, to our knowledge, this is the first study to attempt such an analysis. Unfortunately, our samples did not allow for a longitudinal analysis that would offer insights into specific trajectories; rather, as already stated, we focus on three cross-sectional groups sampled at different times after the floods. Having verified that there were no differences in demographic factors, we could calculate and compare more precisely the levels of common fate and community identity. As hypothesised, there was a declining pattern in common fate and shared social identity (also see Ntontis et al., under review: Chapter 4). Participants' flood status did play a role in the levels of common fate and community identification that they experienced, with flooded participants reporting significantly higher levels closer in time to the floods. Flooded residents sampled 8 and 15 months after the floods reported higher levels of common fate compared to unaffected residents, while there was no difference in common fate between flooded and unaffected participants sampled 21 months after the floods. On the other hand, shared community identity seems to decline quicker, as shown when comparing participants of waves 1 and wave 2. The declining strength of the relationship between common fate and shared social identity, two key variables of the SIMCR, verifies our hypothesis for the declining patterns, and shows that residents no longer used common fate to define themselves. However, we emphasise that these findings are a first approach to investigating this hypothesis and

are based on comparisons of cross-sectional groups. Thus, further longitudinal research should be conducted.

Research has pointed to the importance of shared identity in effective communication (e.g., Greenaway, Wright, Willingham, Reynolds, & Haslam, 2015). However, in our research, we present an opposite pattern, with communication enhancing the shared identity (cf. Carter, Drury, Rubin, Williams, & Amlôt, 2015; Postmes, Haslam, & Swaab, 2005; Reicher, Hopkins, Levine, & Rath, 2005; Stott, Adang, Livingstone, & Schreiber, 2008). Qualitative evidence on maintaining shared social identities has shown that communication between community members can be a key factor that maintains the sense of togetherness in communities affected by floods (also see Ntontis et al., under review: Chapter 4). In our analysis, we quantified and tested these findings, and we found that communication between community members did predict shared community identification 21 months after the floods, over and above the effects of common fate or participants' flood status. Better quality and more communication predicted community identification, and the effect was mediated by expected support and shared goals. Thus, it appears that, when common fate itself significantly declines 21 months after a flood, communication between residents can play a role in sustaining the sense of togetherness (also see Paton & Irons, 2016) through perceiving themselves as sharing goals with and expecting support from other residents. In line with previous qualitative findings (Ntontis et al., under review: Chapter 4) we theorise that closer in time to the floods shared community identification predicts shared goals and expected support, while later expectations of support and shared goals, which stem from communication with the community, enhance people's sense of identity. However, this remains a cross-sectional model, and alternative ones

are also possible, with community identification acting as a mediator between communication, shared goals, and expected support.

Finally, researchers in disaster contexts have shown how reductions in perceived support can negatively impact on wellbeing, and how such effects can be tackled through further provision of social support (Kaniasty & Norris, 1993; Norris & Kaniasty, 1996). Based on the tenets of SIMCR, we offer in this paper a social identity explanation of wellbeing in communities after disasters, and we have examined whether it would be affected by the time after the flood at which people were surveyed. Indeed, we found that the experience of common fate and the subsequent self-categorisation in terms of a community identity did affect expectations of support, which was associated to better wellbeing. This finding was not affected by participants' flood status, and, importantly, was not affected by the time after the flood at which participants were surveyed. Thus, community identification seemed to be associated with benefits for the population in general, which is in line with previous findings on its importance (e.g. Haslam, Jetten, Postmes, & Haslam, 2009; Jetten, Haslam, & Haslam, 2012; Obst & White, 2005).

Inevitably, our research has its weaknesses. Importantly, ours was not a longitudinal study, but a comparison of psychological variables in a survey collected at three cross-sectional time points after controlling for the effects of demographic factors; longitudinal research is needed to verify our findings. The difficulty in investigating populations affected by disasters is immense, especially considering that people can relocate or will have priorities other than participating in research (SAMHSA, 2016). Another limitation of our study is the difference in sampling methods. Two waves of participants were tested by questionnaires delivered through the post office, whereas another wave was surveyed by door-to-door knocking. Moreover, we sampled everyone

within the affected community and did not follow a strict sampling protocol with stratified populations due to the limited number of available participants and the even lower response levels. Third, we recognise the small sample size of our latter surveys. Nevertheless, our results are in line with previous qualitative and quantitative research, but the observed patterns should be reproduced in larger sample sizes.

5.6 Conclusions and policy implications

Notwithstanding our study's limitations, we present a first attempt to investigate how emergent social identities change over time, how they persist, and how they impact upon wellbeing, which can be of interest to social psychological theory. Floods are becoming more common and with more severe impacts (Few, 2007), and, at least for the UK which is the focus of this study, governments call for the enhancement of community resilience (Cabinet Office, 2011). However, community resilience in the UK is primarily based on social capital and the support that pre-existing community networks offer to the affected once mobilised, neglecting the mechanisms through which groups emerge and contribute to the response and recovery periods of the disaster (Ntontis et al., 2018a: Chapter 2). Our findings are in line with previous research in social identity processes in floods (Ntontis et al., under review: Chapter 4, 2018b: Chapter 3), showing that emergent groups can contribute to the resilience of communities and residents' wellbeing. Thus, current approaches to community resilience can greatly benefit from incorporating social psychological processes of collective resilience into their guiding principles. Communities possess the capacity for agency, and their ability to mobilise and act should be considered. This can be done by promoting bottom-up approaches to emergency planning, promoting communication between communities, emergency responders, and policymakers.

Chapter 6

Discussion

6. Discussion

In this thesis, I have conceptualised community resilience as a process based on the tenets of the social identity model of collective resilience. I summarise my findings below. I also discuss the theoretical and practical implications of my findings, the limitations of my studies, and discuss avenues for future research. I conclude with personal reflections and words of caution and optimism.

6.1 Summary of findings

In this sub-section, I discuss my findings as they relate to the specific research questions I addressed in Chapter 1.

Communities and community resilience in UK guidance

My first approach was to investigate how communities and their resilience are portrayed in official UK guidance and policy documents that refer to floods either partially or exclusively; a question that is explored in Chapter 2. Constructions varied between reified, simplistic, and static accounts, as well as more sophisticated and targeted discussions around core elements that can constitute community resilience. Additionally, I discussed how some documents act as platforms for community engagement and promote bottom-up approaches to resilience, whereas others strip communities of their agency and promote top-down approaches dependent on expert knowledge. Similarly, there is no agreed definition regarding the nature of communities themselves. As I discussed in Chapter 1 and showed in Chapter 2, most official documents conceptualise communities regarding pre-existing networks and geographical communities (Cabinet Office, 2011). Emergent communities and their benefits for resilience are notably absent in these documents, and, where they are

mentioned (e.g. Cabinet Office, 2011), ways of integrating the findings in policy and practice are not discussed further.

The SIMCR in the case of flooding, and positive effects on wellbeing

The second contribution of this thesis is the exploration of how the principles of SIMCR apply to the context of flooding. As I argued in the introduction (Chapter 1), floods as ‘rising-tide’ events are different to ‘sudden impact’ events in that they are more expected phenomena compared to bombings and earthquakes, and there is usually time for a coordinated response to be arranged. Moreover, flooding usually affects people in their homes, and the response can require the mobilisation of the entire community in support of the affected people. However, the application of SIMCR had never been investigated in the context of floods before. Since developing community resilience is one of the strategies that UK governments attempt to deal with the impact of floods (Cabinet Office, 2011), we followed Norris et al. (2008) and treated community resilience as a process with a view to attempting to offer a social psychological explanation to it based on the tenets of the social identity model of collective resilience (Drury, 2012, 2018).

In my opinion, the findings of the studies that are reported in Chapters 3, 4, and 5 have answered the second question of this thesis – that is, *whether the principles of SIMCR apply in the context of floods*. As I show, the experience of common fate can act as comparative context against which members of flood-affected communities can come to see themselves as sharing a group identity (cf. Drury et al., 2016; Drury, Cocking, & Reicher, 2009a, 2009b). This group identity can account for behavioural outcomes such as the provision of emotional and coordinated support, as well as for psychosocial

outcomes like increased collective efficacy, shared goals, and higher expectations of support.

A novel aspect of my studies is the inclusion of measures on psychosocial wellbeing. Indeed, both the interview data presented in Chapters 3 and 4, as well as the statistical analysis reported in Chapter 5 show a positive relation between shared social identity and psychosocial wellbeing. A prediction of the social cure framework is that social identities can positively impact on wellbeing to the extent that people identify with these identities and the latter have a positive content (Jetten et al., 2017). The tenets of the social cure have been explored in the context of disasters concerning community identification, showing that community identity can facilitate post-traumatic growth (Muldoon et al., 2017).

What is more, I extend the underlying social identity processes in disasters and more specifically to floods. For example, this research is the first time that the tenets of SIMCR have been investigated in groups that have been affected by floods in different ways. To date, research based on SIMCR has largely focused on populations that have been directly affected (Drury, Cocking, & Reicher, 2009b). However, the mobilisation of the unaffected community is crucial for flooded victims, and my research helps to shed light on the social identity processes underlying the phenomenon. In Chapter 3, I discuss how unaffected or indirectly affected residents came to feel as community members, with residents reporting a sense of togetherness arising due to a potential common fate, as well as perceived vulnerability and lack of preparedness from the survivors' side. Importantly, ongoing common problems following the direct aftermath as well as shared goals among community members helped shared social identities to form.

My studies are the first in the UK to explore social identity processes in community responses to floods. They add to the existing literature as well as to the SIMCR by showing both the antecedents of shared identity – how common fate predicts shared community identity – as well as the mediating operation of expected support in the relationship between shared identity and its positive effects on psychosocial wellbeing.

Shared social identities in the recovery period: Differences between affected and unaffected residents, and the sustaining role of communication

As I already mentioned, the effects of floods can extend far beyond the immediate response and into the recovery period (Jermacane et al., 2018). However, the SIMCR to date has only investigated social identity processes during the immediate response phase (Drury et al., 2016; Drury, Cocking, & Reicher, 2009a, 2009b). Thus the question of *the extent to which shared social identities persist or decline in the aftermath of floods* remained. I deal with this question in Chapters 4 and 5. The qualitative investigation reported in Chapter 4 unveiled a variety of reasons that contribute to the sustenance and decline of the shared social identities. The quantitative survey reported by Chapter 5 showed for the first time both how the shared sense of identity changes over time, as well as tested for any differences between affected and unaffected residents. I found flooded residents' sense of common fate was stronger closer to the floods and declined around 21 months afterwards, while the sense of common fate remained stable for unaffected residents. With regard to shared social identity, a similar declining pattern was observed. However, the shared sense of community identity declined 15 months after the floods. The positive relationship between common fate and shared social identity, a key tenet of the SIMCR, seemed to follow a downward trajectory, with the

relationship gradually weakening and ending up as not significant 21 months after the floods. Communication between community members seemed to be a core element that contributed to the psychological community in York continuing, as seen in Chapter 4. Survey findings reported in Chapter 5 show that communication between community members supported the maintenance of a sense of community 21 months after the floods, over and above the effects of common fate.

6.2 Theoretical implications

The novelty of the work presented in this thesis lies in the fact that it draws on the social identity approach to develop current understandings surrounding community resilience. As already shown, current understandings of community resilience are static and heavily rely upon pre-existing resident networks which are mobilised to offer support to survivors. When communities other than geographical ones are discussed, their mention is usually brief, and their potential contributions are not fully considered. The studies presented in this thesis offer a more dynamic conceptualisation of community resilience in flooding, which revolves around understanding the processes underlying emergent communities, or the ‘community spirit’. Importantly, my findings on the emergence of pre-existing networks contribute to existing theorising on social capital-based community resilience. More specifically, in Chapters 3 and 4, I show how the perception of common fate leads to the emergence of novel groups that can foster the creation of new community networks, or social capital, which can make communities more resilient. Moreover, as discussed in Chapter 4, my findings offer a more dynamic view of how emergent community networks are sustained, and how they can contribute to community resilience.

The studies reported in Chapters 3, 4, and 5 replicate and extend previous findings that support the SIMCR on the emergence and operation of shared social identities in disasters. In line with the theoretical framework, common fate causes the emergence of shared social identities, and the latter act as the basis for the mobilisation of social support, as well as for a range of psychosocial outcomes including expectations of support, shared goals, and collective efficacy. Crucially, aside from shared social identity, the observation of others providing social support is a catalyst for the mobilisation of social support (also see Drury et al., 2016). More generally, my findings are in line with the social cure approach in social psychology, and attest to the benefits of people's shared group memberships for their wellbeing (see Chapter 5).

The nature of floods calls for the mobilisation of the surrounding community to deal with the impact and recovery periods. Thus, while previous SIMCR-based research focused solely on survivors' understandings, the flooding context allowed me to test how social identity processes operate between affected and unaffected residents. The findings show that unaffected residents are mobilised by similar processes, and while common fate can be a main factor of the emergence of solidarity, more factors are essential for the mobilisation of unaffected people (see Chapter 3).

My studies are also the first to investigate how emergent groupness changes over time (see Chapters 4 and 5). Given the fact that the recovery period after flooding can be prolonged and hard due to the operation of secondary stressors, the post-flood context was ideal for investigating how the reported levels of shared community identity differed between participants sampled at different time points following the floods. A unique contribution to current social psychological knowledge is that, as expected, the theorised and observed positive link between common fate and shared social identities declines over time due to the reduction of perceived common fate.

However, similar to previous findings (Carter, Drury, Amlôt, Rubin, & Williams, 2014; Carter et al., 2013), my studies point to the importance of communication for the sustenance of shared social identities as well as for the mobilisation of social support that can be crucial for the recovery of affected residents.

6.3 Practical implications

The application of the social identity approach to understanding collective resilience of communities in flooding has generated recommendations for practitioners and policymakers, which are supported by the empirical findings presented in this thesis. I suggest that, as a result of their theoretically-driven and empirically-tested nature, these findings should be adopted by official policy and practice guidance.

1) *Avoid talking about ‘community resilience’ in general, and rather focus on its specific contributing elements.* As I discussed in Chapter 1, the debate on what is community resilience is far from over, and a multitude of different conceptualisations exists. However, this problem is reflected in guidance documents that discuss community resilience. As I showed in Chapter 2, community resilience is discussed in some documents as a general, static, reified concept, which makes it difficult for practitioners to operationalise and for targeted interventions to be effective. On the contrary, I suggest that interventions should consider enhancing particular elements that can contribute to the resilience of a community. They can be material like the availability of resources and economic investment, or social including the consideration of local community knowledge, existing community networks, and community leadership. What is more, psychosocial elements that can contribute to community resilience should also be considered, such as the emergence of communities during

disasters and the support they can provide. Adequate consideration of pre-existing and emergent communities and communication with, rather than exclusion of them, can be an effective approach to developing and sustaining community resilience.

2) Acknowledge and include emergent psychological communities and people's capacity for collective resilience behaviours in policy and guidance. As I discussed in Chapter 1, existing guidance is largely based on geographical and pre-existing communities, whereas reference to psychological communities is rare and unexplained. However, past research (Drury, 2012, 2018, Drury, Cocking, & Reicher, 2009a, 2009b) as well as the empirical findings in Chapters 3, 4, and 5 (also see Ntontis, Drury, Amlot, Rubin, & Williams, under review: Chapter 4; 2018b: Chapter 3) discuss the psychological mechanisms that contribute to the collective resilience of people in emergencies and the subsequent benefits on wellbeing. This research acknowledges the agency and capacity of people to respond in emergencies. It is in line with suggestions about the inclusion of crowds in emergency management (Drury, 2012; Durodié & Wessely, 2002), as well as with wider calls for the enhancement of the resilience of communities through evidence-based knowledge (UNISDR, 2015). These findings could be incorporated into existing guidance. For example, rather than merely mentioning the existence of 'communities of circumstance', the Strategic National Framework on Community Resilience (Cabinet Office, 2011) could discuss how such communities operate in terms of the support they mobilise and their positive impact on wellbeing. Moreover, since the effects of secondary stressors can be prolonged and take a heavy toll on residents' mental health, it is important to acknowledge the importance of the continuation of these groups and ways in which the authorities can contribute to

their persistence due to the benefits that ongoing social support and group membership can have on wellbeing.

3) *Plan for and facilitate the inclusion of emergent communities in emergency management.* As I showed in Chapters 1 and 2 (Ntontis et al., 2018a: Chapter 2), emergent psychological communities are rarely acknowledged in emergency guidance. However, as the findings reported in Chapter 3, 4, and 5 reveal, psychological communities that consist of affected and non-affected residents emerge during floods and act as providers of social support to affected people. Moreover, such communities are not characterised by panic or other irrational responses but can organise and provide support for those in need even before the arrival of emergency responders. However, even though they are usually considered to be agentic and rational, current policies do not plan for their inclusion in emergency management but ignore them or enforce top-down approaches. Based on the empirical work in this thesis, I argue that practitioners and policymakers should consider how emergent communities can be used to assist in the response stage of disasters. For example, in the case that spontaneous groups of volunteers emerge during an incident, emergency plans should consider tasks that these groups can carry out that will not put them in danger or interfere with the official response. Also, authorities disseminate information concerning which specific places will be designated as hubs at which unofficial volunteers and spontaneous groups can converge and communicate with the authorities in case of emergency. If emergent communities are ignored, their support could be misguided, misused or ineffective, and in a worst-case scenario, they could cause further damage by interfering with the emergency response. There is also an additional benefit of planning for the incorporation of communities that might emerge during flood incidents. In the event of

a flood after which self-organisation happens, there is a chance that the support from emergent groups could appear as or be more positive than the official response, thereby undermining trust in and the legitimacy of the authorities and emergency responders. If the alternative sources of support and help are seen as more credible and effective than official sources, then there is the risk that the role of responding organisations can be significantly undermined. In this respect, planning to include emergent groups can benefit both the profile of responders as well as the disaster response and recovery phases.

4) Facilitate the maintenance of community groups that emerge during flooding.

Apart from the emergence of groups in floods, a novel contribution of my research is my investigation of the factors that contribute to the persistence of the shared sense of togetherness. The SIMCR and the wider social cure literature points to the ways in which shared social identities are beneficial for wellbeing due to the shared sense of togetherness and the social support they can mobilise. Common fate and the sense of togetherness it causes can fade after the immediate impact (see Chapters 4 and 5), but the damage of the floods can be protracted. I discuss the factors that aid in the continuation of the sense of togetherness. A major contribution is that of communication between residents (Chapter 4), which can act over and above common fate in the long-term aftermath (Chapter 5). Communication can take the form of unplanned discussions that occur in everyday life, as well as through pre-planned events like anniversaries organised by residents to celebrate the community. Such instances can help to sustain the sense of belonging to the community, as well as to maintain provision of social support. However, through the interviews reported in Chapter 4, I found that the authorities were not always willing to support these community-led

events. I argue that this can damage the persistence of the sense of community that residents might come to share, which can then contribute to the subsequent erosion of social capital created spontaneously through the floods. Hypothetically, this can contribute to the public perceiving the authorities as not caring for the community and prevent them from creating stronger bonds with the public and from building trust with the communities for which they are responsible. As a result, inclusion of the community in flood management and community resilience activities can become a much harder task.

5) Residents can actively contribute to community organisation and wellbeing through forming and maintaining groups.

A shared sense of belonging to a community can assist residents of a community to realise both psychosocial and practical benefits. Therefore, residents should consciously and strategically set up, support, and maintain groups that reflect the community's interests. Communication is key to maintaining a shared sense of togetherness, and this can be achieved through the availability of shared spaces where people can discuss daily concerns and organise community activities. Such shared spaces can also be crucial in times of emergencies and can be used in collaboration with authorities for the effective organisation of emergent groups of supporters. Therefore, as well as a group, with a name, web-presence (e.g. Facebook) and other signifiers of identity, the group should consider the role of space and place. In groups, people can expect support from each other, strive for similar goals, and their wellbeing can be improved. Moreover, the availability of social support increases in such groups.

6.4 Limitations and future research

The studies that comprise this thesis are not without limitations, which I suggest can be addressed through future research.

The difficult nature of studying disaster communities forced me to rely on opportunity samples to identify participants. There is always a chance that recruited participants who reported feeling part of the community were more civic-minded and involved in their community in the first place. However, the variability in responses observed in some participants' lack of identification with a community shows that the bias of sampling only community-oriented participants might not be the case. Future research should identify and recruit participants with the support of other sectors (e.g. local authorities) to avoid the limitations of self-selected participants and snowball samples.

Apart from the topical limitations that interview studies entail in the first place, which are extensively discussed in Chapters 3 and 4, the studies in this thesis suffer from other limitations. For example, the survey study reported on Chapter 5 was initially designed as a longitudinal study. However, the final design and report ended up as a 3-wave cross-sectional survey that did not allow me to see how shared social identities change in the aftermath of the flood for the same participants. The main difficulty had to do with the number of residents that participated across all 3 survey waves, and I identify two key issues that played a key role and should be considered by researchers in future studies. The first issue has to do with the number of participants that participated in the first study, while the second issue is related to the participants that did not respond to subsequent survey waves. Unavoidably, longitudinal studies suffer from the effects of attrition. Attrition refers to the number of participants that are lost between different survey waves, and can be a very important problem in

longitudinal studies. To protect against the effects of attrition, longitudinal studies should ideally achieve very high response rates on the first wave, so that the final wave will have an adequate number of repeat responses for the researchers to be able to conduct the analysis. However, in my studies I faced a very low response rate that kept declining as the survey waves progressed (see the Methods section of Chapter 5 for the exact response numbers), which finally impacted upon my ability to conduct a proper longitudinal survey. I believe that the low and generally decreasing response rate concerns the nature of disaster communities themselves. It can be hard to participate in such a study for various reasons. These can include relocation that can make participants harder to track and deliver questionnaires to, the questionnaires may be delivered to an empty residence, or participants can be busy filling in paperwork regarding insurance and other claims. Moreover, even if participants do receive the questionnaires, it can be hard for them to fill them in since they can bring back memories of the experience of the disaster. I also think that the distribution method of the surveys also had an impact on the final response rate. I used the post-office as my preferred distribution method for the first and third survey waves. However, I think that this method is too impersonal, since directly and indirectly affected residents might not be willing to fill in an impersonal and uninvited questionnaire from a researcher they have never had contact with before. What is more, non-affected potential participants residing far away from the affected area might find it pointless to participate in the study. The impersonality of the message in conjunction with the unwillingness of the former and the disinterest of the latter group of potential participants can result in very low response rates, particularly for the first wave that will be the baseline for subsequent ones. What is more, each house only received only one set of questionnaires and a subsequent reminder, which participants could lose or avoid checking via a first

look due to the large amount of envelopes, usually of advertising nature, that they receive. To guard against this issue, I believe that a door knocking approach with a large team of research assistants would bring better results. First, potential participants would receive an invited questionnaire by a member of the research team with significantly higher information. Residents of the affected areas would have a chance to have the survey and its aims explained to them, whereas unaffected residents would possibly have the reasons for which their participation is important to them be explained to them, rather than consider themselves as mistargeted receivers of a general survey. Second, each research assistant could focus on a specific street or small area and keep trying to sample all residents for an extended amount of time. Through my door knocking approach at the second survey wave, I found that different participants could only be approached at different times during the day. Others were easier to find during morning hours (particularly the elderly who were reluctant to open their doors later in the evening), whereas younger working residents could only be approached during late afternoon and early evening hours, after coming back from work and before having dinner. This only gave me a short window of about 2.5-3 hours (between approximately 4.30pm and 7.00pm) for approaching those residents. Thus, a small group of assistants each visiting a specific area for an extended amount of time is more likely to sample all residents around the area of interest compared to the one-off post-office delivery method.

If acquiring a large enough first cross-sectional sample is one problem for longitudinal research, persuading or motivating the same participants to fill in subsequent surveys on the exact same topic can be an equally daunting experience. From my fieldwork, I observed that, not only do the numbers of participants that fill in subsequent survey waves decline, but repeated participants are also much harder to

identify. This poses a core question for researchers conducting longitudinal surveys.

That is, how can we motivate participants that have already filled in a single survey wave to also participate in subsequent ones? During the sampling periods, I received a handful of empty envelopes in which participants had written that they had already participated in the first wave and did not find a point in repeating their questions.

Reflecting on their comments, I think that this had to do with a lack of communication from myself about the aims of the survey. I believe that, had participants been informed properly on the aims of repeated measure designs, perhaps the response rates would have been higher. This again brings up the issue of face-to-face communication, where an assistant would possibly have done a better job in informing prospective participants about the aims of a longitudinal study and the importance of their participation compared to the information communicated on the first pages of a questionnaire.

However, my questionnaires did not contain a short description on the aims of the longitudinal research, which could possibly have an impact on the final response rates. Another means of motivating participants to fill in all survey waves could be achieved by offering them some kind of compensation. In my case however, the limited financial resources available for the conduct of the project in conjunction with the large number of prospective participants made the provision of a financial compensation impossible.

Another major limitation concerns the lack of any pre-flood data on the community. Such data could provide the pre-disaster baseline on variables like community cohesion and social capital against which data collected after a flood could be compared to identify any psychosocial changes that could have occurred. The lack of such data means that the community identity of the area prior to the events under investigation is largely unknown. However, the declining shared identity across the three cross-sectional waves indicates that community identity was higher for the sample

closer to the floods and decreased for the sample 21 months after the floods, reaching similar levels to that of unaffected residents. Nevertheless, the task of acquiring pre-disaster data can be daunting and nearly impossible to execute due to the unpredictable nature of disasters. Certain researchers have managed to acquire data before disasters and compare them with post-disaster measures. For example, Wickes et al. (2015) collected longitudinal data before and after a major flooding in Brisbane in 2011. The flooding happened while a major longitudinal project was underway. The project, titled the Australian Community Capacity Study, was conducted by the Institute for Social Science Research at the University of Queensland, and explored the social processes related to crime and disorder in urban communities. The measures used included perceived community problems as an indicator of community resilience and wellness, as well as social cohesion, social trust, bridging, and bonding social capital among others as predictors of resilience. The analysis on floods comprised of 148 communities, with 43 of them directly affected by flooding. Overall, Wickes et al. (2015) had access to a large and established population, and flooding occurred at a time that allowed both pre- and post-incident measures of social capital and indicators of community resilience to be acquired, regardless of the fact that the indicator of community resilience used was residents' perceptions of community problems rather than flood-specific measures or processes. With regard to my project though, unfortunately, the limited resources and short duration of the fieldwork during a PhD project combined with the unexpectedness of disasters did not allow me to gather pre-incident measures. A solution to this problem would be if measures on psychosocial indicators were included in repeated national surveys, which would allow for the controlled collection of measurement both before and after a disastrous event.

This thesis concerns the perceptions and behaviours of residents within a community, whereas no data exist on the relations between communities and authorities. However, one group's behaviours can shape the context under which another group's behaviours take place (Drury & Reicher, 2000; Reicher, 1996). How authorities deal with community-related incidents and their treatment of the community can affect how the former are treated by the community itself. In this thesis though, I investigate the role of communication in sustaining the sense of community in the long-term aftermath of the disaster, but only from an intragroup perspective. Thus, future research should identify the role of intergroup communication between authorities and residents, and how it can assist in distancing or bringing together the two groups. Such complex group dynamics can affect the resilience of a community, especially since the latter relies on good relationships between local authorities and residents. Future research should adopt an ethnographic design and investigate the intergroup processes that occur in flood-affected communities on a regular basis over time. My initial research plan included an ethnographic investigation of intergroup processes between authorities and communities. However, the ethnographic aspect was impossible to implement on the basis of my being based at the University of Sussex in Brighton. The distance from York, the case study under investigation, proved too great to allow me to travel frequently and observe any possible interactions and developments between community members and the authorities as they developed.

6.5 Reflections, and words of caution and optimism

Hopefully, by now my position on collective behaviour and its relation to resilience is clear: community action should not be pathologised, but rather people's propensity to collectively organise and provide support should be made clear at all

instances. In this thesis, I have tried to investigate how social psychology can provide insights on group dynamics in an attempt to inform current approaches to community resilience. However, I would like to use the final limited space of this thesis to better clarify my position. On the one hand, recognising the agency and capabilities of communities and other collectives is crucial for their subsequent treatment; pathologised crowds will be met with conservative and often hostile treatment, whereas assuming that crowds have the capability to organise and offer support can help to incorporate them into existing plans. However, resilience can operate as a double-edged sword. In the age of extreme capitalism, neoliberal politics, and financial cuts in public policy, recognising the ‘natural’ resilience of people at the individual and collective levels may be used by politicians or policymakers to justify further cuts. This point is also echoed by Drury (2012) and Furedi (2007), who argue that resilience discourses can be used to minimise public spending, and bypass governmental responsibilities. In this light, Chandler (2014a) discusses how resilience-thinking incorporates neoliberal individualism and promotes focus on the individual self and the need for self-reflection. Thus, resilience becomes the responsibility of the individuals or communities at risk, and any failure to deal with disasters can potentially be attributed to people’s lack of action rather than to systemic causes like budget cuts and lack of infrastructure and economic development. However, as I noted in Chapter 1, Norris et al. (2008) make clear that community resilience comprises of more elements than merely social capital, with one of the most important being economic prosperity. A similar point is made by Wickes et al. (2015) who argue that physical infrastructure in some instances can be more important than social capital. I endorse the position that it is deeply problematic to use scientific knowledge that shows people’s inclination to effectively deal with and recover from extreme incidents to justify financial cuts, promote further anti-social

policies, and bypass governmental responsibility to attribute it to communities themselves. The development of community resilience should include both financial investment in infrastructure, as well as consider the actual behaviour of communities and attempt to incorporate them in existing practices and policies, promoting public contribution and cooperation in bottom-up approaches to current problems. By their nature, disasters, and possibly major incidents and emergencies, exceed the capacity of a community or system to effectively respond. It is only through a combination of appropriate investment in infrastructure and resources, coupled with response plans that incorporate a more sophisticated and evidence-based understanding of the operation of existing and emergent communities, that we can be optimistic that we will mitigate the worst effects of these events, and promote faster and more complete recovery.

6.6 Conclusion

In this thesis, I provide evidence for the operation of social identity processes in the population of flood affected areas. My analysis reveals that current policy and practice on community resilience relies too much on pre-existing networks and overlooks emergent communities and the collective resilience of people. This is in contrast to wider calls for the greater involvement of the public in crises and mass emergencies, and my findings consistently show that social identity is central to the emergence of altruistic communities during floods, the support they mobilise, and their benefits on wellbeing. What is more, my studies are the first ones to show the development of shared identities in the long-term aftermath of floods, highlighting the importance of communication.

Current reports state that climate change will have increasing impacts on disasters worldwide. Particularly for the UK, more frequent and impactful floods are predicted.

However, having considered current policies and guidance on community resilience in the UK, I have formed the opinion that the guidance is incomplete since it largely ignores people's capacity to spontaneously come together and offer support. Despite the limitations in my research, my findings consistently show how the consideration of the dynamics of emergent groups can improve current community resilience thinking. Their adoption will align community resilience policy and practice with empirical research on group behaviour. It can also help to de-pathologise crowd behaviour and instead treat crowds as a resource, leading thereby to better outcomes for communities and experts alike.

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Appendices

Appendix 1: Interview schedule for Chapter 3

Interview Plan

Introduction

Before the Flood background

- Do you have any previous experience with floods?
 - Have you been in any similar situation?
- What were you doing before the flood?
- Tell me about the warnings before the flood.
 - Did you receive or not?
 - Were you informed in any way?
 - How did you react?
- Did you have any relations with your neighbours before the floods? What were they like?

During the flood

- Tell me what happened to you when the flood started.
- How were you affected by it?
- Was there any danger that you would lose your house or possessions?
 - Did you feel threatened or frightened?

Shared identity and common fate

Now we would like to ask you about your relationships with those around you during the flooding. We are interested in your relationship with 1) your neighbours and 2) with others, including strangers, at the time of the flood.

- What was your relationship like with your neighbours before the flood?
- What was your relationship with your neighbours during the floods?
- Who else did you come into contact with during the floods?
 - What was your relationship with them?

- Did you know them prior to the incident or you got connected to them during the events? How?
- Did it feel like people shared the same fate?
- 'All in the same boat' or not?
- Did you feel a sense of unity or togetherness with them?
 - Why? / why not?
- Did you identify with the people affected?
- Did you feel that the people affected were like yourself?
- Was there a sense of community at any time?
 - Who would you include in this community?
 - Was anyone not part of the community?
 - Anyone you did not feel connected to?

Behaviour

Now we would like to ask you some questions about how you behaved towards others and how they behaved towards you, at the time that the flood was happening.

- What did you do during the floods?
 - How did you react?
- How did others react to the flood?
 - Were such behaviours appropriate to the situation?
 - Were such behaviours helpful?
 - Did such behaviours enhance (or damage) the sense of unity?
- Did you expect others to be cooperative?
 - Were they?
- Was their behaviour helpful to the community and common interest?
- Did such behaviours motivate you to participate in activities during the flood and offer support?
- How often did **you participate in** the following helping behaviours, if you were able:
 - Helping others evacuate to a safe place.
 - Sharing resources (food, water).

- Help rescue people.
- Giving emotional support:
 - Showing care for others (e.g., showing empathy)
 - Showing concern for others' needs
 - Listening to others
 - Asking how they are
- How often did you **witness** the following helping behaviours?
 - Helping others evacuate to a safe place.
 - Sharing resources (food, water).
 - Help rescue people.
 - Giving emotional support.
 - Showing care for others
 - Showing concern for others' needs
 - Listening to others
 - Asking how they are

Now we have some questions for you about participation in collective action. This refers to people acting together or coordinating as a group at the time of the flood.

- Did people act in an organized way?
 - How did they organize?
- Was everyone agreed about how to act, or were there disagreements about the correct course of action?
- Did you participate in groups that organised to help people evacuate/move/etc?
- Did you witness groups that organised to find help/survivors/supplies, etc?
- Did you work together with strangers?

Vulnerability

We would like to ask you how much control you felt over your own destiny during the flood.

- Were you able to go to a safe place?
- Did you feel in control of things despite the flood?
- Did you feel vulnerable during the event?
- Did you feel empowered during the event?

- Why? What caused such feelings?

Perceived and received support

Now some more specific questions about the support you expected and the support you actually received.

- Did you receive any support, material or emotional?
 - How would you describe it? (adequate, helpful, etc.)
- From whom did you receive support?
 - Authorities, volunteers, neighbours etc.
- Did the support match your expectations overall?
- Did the emergency responders treat you well?
- How did the offered support affect your community?
- Were people treated equally or not?

Services / Authorities

Now I would like to ask you a few questions about your relationship with other groups during and immediately after the floods.

- Did you expect to receive assistance from the authorities?
 - To what extent?
- How would you describe your relationship with the services that helped you?
 - EA
 - Flood wardens
 - Police
 - Fire brigade and rescue services
 - City council
- Do you trust/mistrust any particular authorities?
 - Why?
- Did your relation with the authorities cause you to act independently??
 - Did such actions cause/prevent any problems?
- Has the local authority (council) treated people fairly?
- Did the central government treat people fairly?

Community-related questions after the flood

Now some questions about your community before, during and after the floods.

- How would you describe your community before the floods?
 - Did you feel that something changed during and after the floods?
- Are there any divisions between groups within the community that affected the overall coping with the floods in any way?
- Did any groups emerge to assist the flood-affected?
- Do you feel you have anything in common with fellow community members, or not? Does this feeling make you feel more/less empowered or vulnerable?
- Are you satisfied with the support received from the council?
- Are you satisfied with the support received from the government?
- Can you tell me a few things about issues that people might have faced with regard to insurance?
- Could you tell me a few things about the months after the flood?

Future preparedness

- Do you now prepare for future flooding?
 - How?
- Do you feel more/less confident to overcome possible future similar events?
- Do you think you will have adequate support in case of similar incidents?
- Have you organized in any way that will assist in overcoming similar incidents?
- Are there any groups or authorities that assist you?

Demographic information

- Age, gender, occupation,

Appendix 2: Interview schedule for Chapter 4

Introduction

Were you affected by last year's floods?

- How was your home affected?
- Did you lose possessions?
- How did it affect you psychologically?

Tell me what happened when the floods started.

- How did you react?
- What did other people do?
- Did you **expect** other people to be cooperative?
- Did you **trust the judgement** of other people in your community?

Now some questions on how you viewed your community during the floods and today

- **Shared identity and common fate**
- Was everyone **similarly affected**?
- Did it feel like everyone was in the same situation?
 - Does it feel like people still **share the same fate**?
- Were different individuals and groups differently affected?
- Did you feel **connected** with the people around you?
- Did you **identify** with the other people affected?
- Did you feel a sense of **togetherness** with those who were there?
- Did you feel that other people affected by the flood were **like yourself**?
- If yes, do you **still** feel the sense of **togetherness** with those affected?
 - Why yes / why not?
- What is your relationship with the authorities? (CYC, Environment Agency, Police)
 - Do you feel them as part of the community?

Emergent Groupness

- How would you **describe** the relations between people in your community before the floods? (different or similar, unity or not, differences between people)
- Did you notice any **change** during the floods?
- Was there a **sense of community** at any time?
- Has this sense of community **changed** since then? In what ways?
 - If yes, is anything done to keep the community spirit alive? **How? Who** is doing it?
- Have you made **new** contacts that you keep in touch since then?
 - If yes, what sustains these contacts?

Now some questions about the behaviours you observed back then and today

Behavior

- Were groups of people working with the **same goals** in mind?
- Are people **still working collectively** with the same goals in mind?
- Did people act in an **organized** way?
- Did **you participate in groups** that organised to help people evacuate/move/clean?
- Do **groups** that help the affected **still operate**?
- Are you **aware of any organized support or campaign groups related** to the floods?
- Do you **participate in any groups** related to the floods?

Now some questions about social support last year and today

• **Support**

- Did you **receive** any support, material or emotional?
 - How would you describe it? (adequate, helpful, etc.)
 - Do you still receive support today?
 - Did people mobilize to offer support to the affected?
 - Were those who mobilized affected, or non-affected as well?
 - What made the non-affected offer their support?
 - Do people still help the flood-affected today? Why yes/ why not?
- Did you **expect** that you would have the necessary **support** if you needed it during the floods?

- By **whom**?
- Do you have such **expectation today**?
 - Why yes, why not?
- Has support **kept coming in**?
 - By whom?
 - Why has it stopped/continued?

Recovery

- How are you are managing to recover from the floods? (materially, psychologically).
- Have you managed to repair your home?
- Did you manage to restore your possessions?
- How do you see your community managing to recover from the floods today?
- How has your community recovered from a stressful event?

Efficacy

- Do you feel now you can respond effectively to the threat of floods with other members of the community?
- Do you feel now that you are in control of things in relation to protecting yourself against the effects of flooding?

Wellbeing (in the last month):

- Are you optimistic about your future?
- Do you feel constantly under strain?
- Do you worry much?

• **Preparedness**

- Had you prepared before the floods? (How?)
- Are you now **prepared** for future flooding?
- What measures are you taking?
 - If yes, what motivated you?
- What is your opinion on research that focuses on disasters/floods? (interviews, surveys etc)
 - Can you mention some positive/negative aspects?

Appendix 3: Survey questionnaire for Wave 1

Survey on community responses to flooding

University of Sussex Sciences & Technology C-REC ref:
ER/EN214/5

Thank you for completing this questionnaire. The findings of this research will be used to enhance understanding of the ways that communities come together to respond to floods and to improve official flood response. Your participation is really important, regardless of whether you suffered any damage or not.



PARTICIPANT INFORMATION SHEET

STUDY TITLE

Survey on community responses to flooding

INVITATION PARAGRAPH

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

WHAT IS THE PURPOSE OF THE STUDY?

UK during the past years has repeatedly faced problems with floods, which cause both material and psychological damage to those affected. However, research has shown that communities can provide people with the necessary support to overcome the difficulties raised. This survey aims to examine people's behaviours and perceptions with regards to their community after the December 2015 floods. The study will involve a questionnaire, where you will be asked questions about the ways that you and the community reacted during and after the past floods. This is the first of the 3 waves of the study. We will send you the same questionnaire again in 9 and 18 months from now. Answering all waves would be extremely important for us.

WHY HAVE I BEEN INVITED TO PARTICIPATE?

You have been chosen to participate in this study because of your past experience with floods in this area. Overall, we have sent questionnaires to approximately 1000 residents in the surrounding area.

DO I HAVE TO TAKE PART?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. You can withdraw your data up to the point at which the study is submitted for publication.

WHAT WILL HAPPEN TO ME IF I TAKE PART?

You will be asked to fill in the questionnaire you have been provided with. The questions refer to how you experienced and behaved during the December 2015 floods. To complete the questionnaire you will need approximately 15 minutes. By completing the questionnaire you agree to take part in the project and give your consent for the data to be used. You understand that your participation is voluntary, you can choose not to participate in part or all of the project, and you can withdraw from the project without being penalised or disadvantaged in any way until the data has been sent for publication. You consent to the processing of your personal information for the purposes of this research study. You understand that such

information will be treated as strictly confidential and handled in accordance with the Data Protection Act 1998.

WHAT ARE THE POSSIBLE DISADVANTAGES AND RISKS OF TAKING PART?

There are no risks involved in you completing the survey.

WHAT ARE THE POSSIBLE BENEFITS OF TAKING PART?

Your participation in this study will offer a better picture of the ways that the 'community spirit' is created, the ways that community members come together to offer support, and how this affects the overall well-being of the community.

WILL MY INFORMATION IN THIS STUDY BE KEPT CONFIDENTIAL?

All questionnaires will be anonymous, identified only by a specific code for each participant. The documents will be strictly confidential, and will be stored in a secure, password-protected computer. No one will be able to link the questionnaires to your identity. Data will only be available to the principle investigator and the supervisory team. In case of publication of the study, the data will be used. However, the same regulations will apply and no one will be able to link the transcripts to your identity. Questionnaire data will be destroyed after 10 years.

WHAT SHOULD I DO IF I WANT TO TAKE PART?

If you wish to participate, simply fill in the questionnaire we have given you, place it in the accompanying return folder, and mail it back to us.

WHAT WILL HAPPEN TO THE RESULTS OF THE RESEARCH STUDY?

The results of the study will be used for the completion of the investigator's PhD thesis completion. It is possible for the studies to be published. You can obtain a copy by contacting the investigator in the email address provided.

WHO IS ORGANISING AND FUNDING THE RESEARCH?

I am conducting this research as a PhD student in the School of Psychology of Sussex University. The research is funded by Public Health England.

WHO HAS APPROVED THIS STUDY?

The research has been approved by the Sciences & Technology Cross-Schools Research Ethics Committee (C-REC), reached at crecscitec@sussex.ac.uk

CONTACT FOR FURTHER INFORMATION

Investigator: Evangelos Ntontis

E-mail: e.ntontis@sussex.ac.uk

Supervisors: Dr John Drury

E-mail:

j.drury@sussex.ac.uk

Dr Richard Amlot

E-mail:

richard.amlot@phe.gov.uk

If you have any concerns about the way in which the study has been conducted, you should contact the supervisors in the first instance.

“University of Sussex has insurance in place to cover its legal liabilities in respect of this study.”

Thank you for taking the time to read the information sheet.

What is this study about?

We are carrying out this study because we know that flooding is an important issue, and we want to see the experiences and perceptions of members of the York community with regards to the December 2015 floods.

This is the first questionnaire that you are kindly asked to fill in. There will be two more follow-up questionnaires in 9 and 18 months from now respectively, and it would be extremely important for us if you could fill all three of them.

By completing this form, I agree to participate in the study

(If there is more than one person interested in filling the survey in your house, you can ask us to send you more paper questionnaires)

IMPORTANT: Before you start, in the line below please fill in in the following order:

a) **Your** **initials (name and surname)**

b) **your mother's initials**

c) **your father's initials**

d) **the number of your day of birth**

For example, EN-EM-SN-06.

This is a unique code so that we can identify you in case you want to remove your answers later.

Please turn the page and answer the following questions:

How were you affected by the December 2015 floods? (please tick one statement that applies to you)

- a. I was not affected at all by the December 2015 floods. ☐
- b. I was indirectly affected by the December 2015 floods (e.g. problems with electricity, gas, drinking water, sewerage, oil delivery/supply, landline, internet, access to work, shops, health care, social care, schools, education, public transport). ☐
- c. My home was flooded during the December 2015 floods (water entering the house). ☐

In the following questions, please CIRCLE numbers from 1 to 7 to show how much you agree with each statement.

The following statements focus on community members sharing the same experiences and difficulties after the floods.

- a. People affected by the flood are all in a similar situation

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

- b. People affected by the flood are all in the same boat

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

- c. Everyone affected by the flood are inconvenienced in the same way

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

- d. People affected by the flood all face similar distress

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

- e. Everyone affected by the flood face similar challenges during recovery

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

The following statements focus on your relationship and perceptions of other community members

- a. I have a feeling of unity with other residents of the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

- b. I have a sense of “we-ness” with other residents of the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

- c. Besides our differences, I share the same identity with other residents of the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

d. I feel at one with the community members around me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

The next statements are about your relationship with your family

a. I feel a bond with my family

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

b. I feel similar to the other members of my family

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

c. I have a sense of belonging to my family

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

d. I have a lot in common with the members of my family

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

The following statements are about your relationship with your friends

a. I feel a bond with my friends

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

b. I feel similar to other friends of mine

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

c. I have a sense of belonging to my friends

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

d. I have a lot in common with my friends

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

The following statements are about your trust towards other community members

a. I think that other community members can be trusted

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

b. I have faith in other members of my community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Next are some statements with which you might agree or disagree. Please indicate your agreement with each item circling your response for each statement.

a. I lead a purposeful and meaningful life

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

b. My social relationships are supportive and rewarding

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

c. I am engaged and interested in my daily activities

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

d. I actively contribute to the happiness and well-being of others

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

e. I am competent and capable in the activities that are important to me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

f. I am a good person and live a good life

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

g. I am optimistic about my future

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

h. People respect me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

The following statements are about the support you expect to have from people of your community

a. If I need help, other community members would help me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

b. Members of my community are supportive towards me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

c. I can count on members of my community to meet my needs if things go wrong

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

d. Other community members are respectful of me.

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

e. Members of my community will listen to my concerns if I talk to them

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Please indicate how much you agree about the following statements about yourself and other community members in relation to the floods

a. Other community members and I agree on what is important for the community after the floods

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

b. Other community members and I share the same ambitions and vision for the recovery of the community from the flood damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

c. Other community members and I have the same goals for the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

Please indicate how much you agree on the following statements about you and other community members in relation to the floods

a. Together we are able to change the situation

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

b. We feel somewhat in control of things, despite the damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

c. We feel able to organize ourselves to help those affected by the damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

Please indicate how you feel about the following statements in relation to yourself

a. I tend to bounce back quickly after hard times

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

b. I have a hard time making it through stressful events

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

c. It takes me long to recover from a stressful event

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

d. It is hard for me to snap back when something bad happens

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

e. I usually come through difficult times with little trouble

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

f. I tend to take a long time to get over set-backs in my life

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

In the following statements, please circle numbers from 1 to 7 to show how many times you did the following:

In relation to the December 2015 floods, how many times during the last 5 months did you:

a. Give equipment (e.g. tools, sandbags) to the flood-affected

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

b. Donate money for the flood-affected

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

c. Share information (e.g. on flood protection, re-housing, recovery, safety)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

d. Help to move furniture in higher levels

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

e. Help to clean properties

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

f. Shared advice to neighbours on insurance claims

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

g. Donate food

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

h. Show concern for people's needs

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

i. Showed respect for others

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

j. Listened to people's problems

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

k. Give comfort to distressed community members

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

l. Help people feel in control of things

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

In relation to the December 2015 floods, how often during the past 5 months have you witnessed people from York:

a. Giving equipment (e.g. tools, sandbags)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

b. Donating money

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

c. Sharing information (e.g. on flood protection, re-housing, recovery, safety)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

d. Helping to move furniture in higher levels

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

e. Helping to clean properties

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

f. Sharing advice to neighbours on insurance claims

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

g. Donating food

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

In relation to the December 2015 floods, how often during the past 5 months have you witnessed people from York working with each other to:

a. Gather donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

b. Sort out donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

c. Coordinate how help is provided

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

d. Assess the various community needs after the floods

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

e. With the various authorities (council, agencies, emergency services)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

f. Assist in cleanups of properties and public areas

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

In relation to the December 2015 floods, how often during the past 5 months have you worked with other people from York to:

a. Gather donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

b. Sort out donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

c. Coordinate how help is provided

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

d. Assess the various community needs after the floods

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

e. With the various authorities (council, agencies, emergency services)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

f. Assist in cleanups of properties and public areas

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

How have you been feeling over the past 5 months? Have you:

a. Been able to concentrate on what you're doing?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

b. Lost much sleep over worry?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

c. Felt you were playing a useful part in things?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

d. Felt capable of making decisions about things?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

e. Felt constantly under strain?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

f. Felt you couldn't overcome your difficulties?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

g. Been able to enjoy your normal day-to-day activities?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

h. Been able to face up to your problems?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

i. Been feeling unhappy and depressed?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

j. Been losing confidence in yourself?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

k. Been feeling reasonably happy, all things considered?

<i>Never</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>Very often</i>
--------------	----------	----------	----------	----------	----------	----------	----------	-------------------

In the following questions, please answer with a Yes or No**After the December 2015 floods, have you now made plans for the following?**

- a. Gained knowledge on how to turn off water, gas, and electricity at home

Yes	No
-----	----

- b. Emergency evacuation procedures at your home

Yes	No
-----	----

- c. Moving furniture and valuable possessions on higher ground

Yes	No
-----	----

- d. Gathering of emergency evacuation supplies, clothes, or equipment

Yes	No
-----	----

- e. Preparation to help elderly or vulnerable neighbours

Yes	No
-----	----

- f. Signed up for flood warnings

Yes	No
-----	----

- g. Learned how to use the internet for emergency advice or information

Yes	No
-----	----

- h. Follow relevant flood groups that share useful information through social media

Yes	No
-----	----

DEMOGRAPHICS (Please tick just one statement that applies to you)**What is your age? Please write it below**

Age: _____

Please specify your relationship statusSingle ☐Married ☐Divorced ☐Other ☐ (please specify): _____**Gender**Male ☐Female ☐Other ☐

Do you have flood insurance for your house or possessions?

- I do not have flood insurance for my house and possessions ☐
- I have flood insurance for my house ☐
- I have flood insurance for my possessions ☐
- I have flood insurance for both my house and possessions ☐

What is your higher education qualification?

- Graduate studies ☐
- University level ☐
- College ☐
- Highschool ☐
- To secondary level ☐
- To primary level ☐
- Read and write ☐
- Illiterate ☐

Which of the following best describes your employment status? (please tick one)

- Working full time (30hrs/wk+) ☐
- Working part time (8–29 hrs/wk) ☐
- Stay-at-home parent / Homemaker / Housewife ☐
- Unemployed (registered) ☐
- Unemployed (not registered but looking for work) ☐
- Retired ☐
- Student ☐
- Other (inc. disabled) ☐
- Would prefer not to say ☐

Please specify your income

- Less than £5,000 ☐
- £5,000 - £19,999 ☐
- £20,000 - £49,999 ☐
- £50,000 - £99,999 ☐
- £100,000 - £149,999 ☐
- More than £150,000 ☐

How long have you been living in the York community for?

- Less than 1 year ☐
- 1 to 5 years ☐
- 5 to 10 years ☐
- More than 10 years ☐

Address where I can be reached

Name: _____
First Line: _____
Second Line: _____
Third Line: _____
Postcode: _____
E-mail: _____
Telephone or Mobile phone: _____

Please, can you indicate how you would like us to contact you in the future:

By post including paper questionnaires ☐

Email, including details of online questionnaires ☐

If you have any comments, please write them below:

Thank you for your participation

Appendix 4: Survey questionnaire for Wave 2

Survey on community responses to flooding Session 2

University of Sussex Sciences & Technology C-REC ref:
ER/EN214/9

For your own convenience, you can fill out this short survey ONLINE by visiting one of the following links:

<http://bit.ly/surveyonfloods>

<https://goo.gl/LHAiht>

Thank you for completing this questionnaire. The findings of this research will be used to enhance understanding of the ways that communities come together to respond to floods and to improve official flood response. Your participation is really important, regardless of whether you suffered any damage or not.

What is this study about?

We are carrying out this study because we know that flooding is an important issue, and we want to see the experiences and perceptions of members of the York community with regards to the December 2015 floods.

This is the second questionnaire session out of three that you are kindly asked to fill in. It will take you around 15 minutes to complete. There will be a last follow-up questionnaire in 6 months from now, and it would be extremely important for us if you could fill both of them, regardless of whether you completed the first questionnaire.

Can I complete this questionnaire ONLINE?

Yes, you can also fill in this questionnaire **ONLINE** by **VISITING ONE OF THE FOLLOWING LINKS**:

<http://bit.ly/surveyonfloods>

<https://goo.gl/LHAIht>

We kindly request that **all residents in the house** fill in the survey. If there is more than one person interested in filling the survey in your house, you can fill the survey **online**, or ask us to send you more paper questionnaires.

Prize

By completing and successfully returning this survey you enter a prize draw to win **£100**, which you can either choose to keep **or** donate to a flood support group of your choice.

IMPORTANT: Before you start, in the line below please fill in in the following order:

Your initials (name and surname)

your mother's initials

your father's initials

the number of the day you were born (for example, 06 or 29)

For example, EN-EM-SN-06.

This is just a unique code so that we can identify you in case you want to remove your answers later.

BY COMPLETING THIS FORM I AGREE TO PARTICIPATE IN THE STUDY

PLEASE TURN THE PAGE AND ANSWER THE FOLLOWING QUESTIONS.

1. How were you affected by the December 2015 floods? (please tick one statement that applies to you)

I was not affected at all by the December 2015 floods. ☐

I was indirectly affected by the December 2015 floods (e.g. problems with electricity, gas, drinking water, sewerage, oil delivery/supply, landline, internet, access to work, shops, health care, social care, schools, education, public transport). ☐

My home was flooded during the December 2015 floods (water entering the house). ☐

In the following questions, please CIRCLE numbers from 1 to 7 to show how much you agree with each statement.

2. The following statements focus on community members sharing the same experiences and difficulties after the floods.

People affected by the flood are all in a similar situation

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Everyone affected by the flood are inconvenienced in the same way

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

People affected by the flood all face similar distress

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Everyone affected by the flood face similar challenges during recovery

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

3. The following statements focus on your relationship and perceptions of other community members

I have a feeling of unity with other residents of the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I have a sense of “we-ness” with other residents of the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Besides our differences, I share the same identity with other residents of the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I feel at one with the community members around me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

4. The next statements ask about your well-being. Please indicate your agreement with each item circling your response for each statement.

I lead a purposeful and meaningful life

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

My social relationships are supportive and rewarding

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am engaged and interested in my daily activities

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I actively contribute to the happiness and well-being of others

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am competent and capable in the activities that are important to me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am a good person and live a good life

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am optimistic about my future

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

People respect me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

5. The following statements are about the support you expect to have from people of your community during a flood event

If I need help, other community members would support me

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I can count on members of my community to meet my needs if things go wrong

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Members of my community will listen to my concerns if I talk to them

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

6. Please indicate how much you agree about yourself and other community members sharing common goals in relation to the floods

Other community members and I agree on what is important for the community after the floods

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Other community members and I share the same ambitions and vision for the recovery of the community from the flood damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Other community members and I have the same goals for the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

7. Please indicate how much you agree on you and other community members being able to change things together in relation to the floods

Together with other community members we are able to change the situation

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

With other community members we feel somewhat in control of things, despite the damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Together with other community members we feel able to organize ourselves to help those affected by the damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

8. The next statements ask about how you perceive the ability of your community to overcome difficulties:

My community tends to bounce back quickly after hard times

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

My community has a hard time making it through stressful events

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

It takes my community long to recover from a stressful event

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

It is hard for my community to snap back when something bad happens

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

My community usually comes through difficult times with little trouble

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Members of my community tend to take a long time to get over set-backs in their lives

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

In the following statements, please indicate how many times you did the following:

9. In relation to the December 2015 floods, how many times during the last 5 months did you:

Give equipment (e.g. tools, sandbags) to the flood-affected

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Donate money for the flood-affected

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Share information (e.g. on flood protection, re-housing, recovery, safety)

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Help to move furniture in higher levels

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Help to clean properties

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Shared advice to neighbours on insurance claims

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Donate food

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Show concern for people's needs

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Listened to people's problems

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

Give comfort to distressed community members

Never	1 time	2 times	3 times	4 times or more
-------	--------	---------	---------	-----------------

10. In relation to the December 2015 floods, how often during the past 5 months have you witnessed people from York working with each other to:

Gather donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Sort out donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Coordinate how help is provided

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Assess the various community needs after the floods

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Discuss with the various authorities (council, agencies, emergency services)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Assist in cleanups of properties and public areas

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

11. In relation to the December 2015 floods, how often during the past 5 months have you worked with other people from York to:

Gather donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Sort out donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Coordinate how help is provided

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Assess the various community needs after the floods

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Discuss with the various authorities (council, agencies, emergency services)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Assist in cleanups of properties and public areas

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

In the following questions, please answer with a Yes or No, or indicate whether you were already prepared

12. After the December 2015 floods, have you now made plans for the following?

Gained knowledge on how to turn off water, gas, and electricity at home

Yes	No	I was already prepared for this
-----	----	---------------------------------

Emergency evacuation procedures at your home

Yes	No	I was already prepared for this
-----	----	---------------------------------

Moving furniture and valuable possessions on higher ground

Yes	No	I was already prepared for this
-----	----	---------------------------------

Gathering of emergency evacuation supplies, clothes, or equipment

Yes	No	I was already prepared for this
-----	----	---------------------------------

Preparation to help elderly or vulnerable neighbours

Yes	No	I was already prepared for this
-----	----	---------------------------------

Signed up for flood warnings

Yes	No	I was already prepared for this
-----	----	---------------------------------

Learned how to use the internet for emergency advice or information

Yes	No	I was already prepared for this
-----	----	---------------------------------

Follow relevant flood groups that share useful information through social media

Yes	No	I was already prepared for this
-----	----	---------------------------------

DEMOGRAPHICS (Please tick just one statement that applies to you)

13. What is your gender?

Male ☐

Female ☐

Other ☐

14. What is your age? Please write it below

Age: _____

15. How long have you been living in York for?

Less than 1 year ☐

1 to 5 years ☐

5 to 10 years ☐

More than 10 years ☐

16. Please specify your relationship status

Single ☐

Married or cohabiting ☐

Divorced or widowed or separated ☐

Other ☐ (please specify):

17. Do you have flood insurance for your house or possessions?

- I have flood insurance for both my house and possessions ☐
- I have flood insurance for my house ☐
- I have flood insurance for my possessions ☐
- I do not have flood insurance ☐

What is your highest education qualification?

- Degree or equivalent ☐
- Below degree level ☐
- Other (foreign or other qualification) ☐
- None (no formal qualification) ☐

18. Which of the following best describes your employment status? (please tick one)

- Working full time (30hrs/wk+) ☐
- Working part time (8–29 hrs/wk) ☐
- Stay-at-home parent / Homemaker / Housewife ☐
- Unemployed (registered) ☐
- Unemployed (not registered but looking for work) ☐
- Retired ☐
- Student ☐
- Other (inc. disabled) ☐
- Prefer not to say ☐

19. Please specify your income

- Less than £5,000 ☐
- £5,000 - £19,999 ☐
- £20,000 - £49,999 ☐
- £50,000 - £99,999 ☐
- £100,000 - £149,999 ☐
- More than £150,000 ☐
- Prefer not to say ☐

20. My address (Required if you want to take part in the final session)

First Line: _____

Second Line: _____

Third Line: _____

Postcode: _____

E-mail: _____

Please indicate how you would like us to contact you in the future:

- By post including paper questionnaires ☐
- Email, including details of online questionnaires ☐

If you have any comments, please write them below:

Thank you for your participation

Appendix 5: Survey questionnaire for Wave 3

Survey on community responses to flooding

Session 3

University of Sussex Sciences & Technology C-REC ref:
ER/EN214/9

For your own convenience, you can fill out this short survey ONLINE by visiting one of the following links:

<http://bit.ly/surveyonfloods3>

<https://goo.gl/ydZCyy>

This questionnaire is part of my PhD thesis, where I investigate how people behave during disasters. The findings of this research will be used to enhance understanding of the ways that communities come together to respond to floods and to improve the official flood response. Your participation is really important, regardless of whether you suffered any damage or not.

Thank you,

Evangelos Ntontis

What is this study about?

We are carrying out this study because we know that flooding is an important issue, and we want to see the experiences and perceptions of members of the York community with regards to the December 2015 floods.

This is the third and final questionnaire that you are kindly asked to fill in. It will take you around 15 minutes to complete. It would be extremely important for us if you could fill the questionnaire in, regardless of whether you completed questionnaires in session 1 and/or session 2.

Can I complete this questionnaire ONLINE?

Yes, you can also fill in this questionnaire **ONLINE** by **VISITING ONE OF THE FOLLOWING LINKS**:

<http://bit.ly/surveyonfloods3>

<https://goo.gl/ydZCyy>

We kindly request that **all residents in the house** fill in the survey. If there are more than two people in your house interested in filling the survey, you can fill the survey **online**, or ask us to send you more paper questionnaires.

Prize

By completing and successfully returning this survey you enter a prize draw to win **£100**, which you can either choose to keep **or** donate to a flood support group of your choice.

IMPORTANT: Before you start, in the line below please fill in in the following order:

Your initials (name and surname)

your mother's initials (name and surname)

your father's initials (name and surname)

the number of the day you were born (for example, 06 or 29)

For example, EN-EM-SN-06.

This is just a unique code so that we can identify you for the last session, as well as in case you want to remove your answers later.

BY COMPLETING THIS FORM I AGREE TO PARTICIPATE IN THE STUDY

PLEASE TURN THE PAGE AND ANSWER THE FOLLOWING QUESTIONS, STARTING FROM THE TOP OF THE PAGE

How were you affected by the December 2015 floods? (please tick one statement that applies to you)

I was not affected at all by the December 2015 floods. ☐

I was indirectly affected by the December 2015 floods (e.g. problems with electricity, gas, drinking water, sewerage, oil delivery/supply, landline, internet, access to work, shops, health care, social care, schools, education, public transport). ☐

My home was flooded during the December 2015 floods (water entering the house). ☐

In the following questions, please CIRCLE numbers from 1 to 7 to show how much you agree with each statement.

The following statements focus on community members sharing the same experiences and difficulties after the floods.

People affected by the flood are all in a similar situation
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

Everyone affected by the flood are inconvenienced in the same way
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

People affected by the flood all face similar distress
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

Everyone affected by the flood face similar challenges during recovery
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

The following statements focus on your relationship and perceptions of other community members

I have a feeling of unity with other residents of the community
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

I have a sense of "we-ness" with other residents of the community
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

Besides our differences, I share the same identity with other residents of the community
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

I feel at one with the community members around me
Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Agree strongly

The next statements ask about your well-being. Please indicate your agreement with each item circling your response for each statement.

I lead a purposeful and meaningful life
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

My social relationships are supportive and rewarding
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am engaged and interested in my daily activities
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I actively contribute to the happiness and well-being of others
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am competent and capable in the activities that are important to me
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am a good person and live a good life
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I am optimistic about my future
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

People respect me
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

The following statements are about the support you expect to have from people of your community during a flood event

If I need help, other community members would support me
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

I can count on members of my community to meet my needs if things go wrong
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Members of my community will listen to my concerns if I talk to them
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Please indicate how much you agree about yourself and other community members sharing common goals in relation to the floods

Other community members and I agree on what is important for the community after the floods
 Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Other community members and I share the same ambitions and vision for the recovery of the community from the flood damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Other community members and I have the same goals for the community

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Please tell us about communication with other community members and authorities

How often did you communicate with other people of your community during and after the floods?

Never

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very frequently

How often did you have discussions with other people from your community during and after the floods?

Never

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very frequently

How often did you hold informal meetings together with other people from your community during and after the floods?

Never

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very frequently

How often did you attend formal meetings organised by your community's authorities during and after the floods?

Never

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very frequently

Please grade the quality of communication between you and other community members

Very poor

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Excellent

Please grade the quality of communication between you and the local authorities

Very poor

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Excellent

Please tell us how much you agree on you and other community members being able to change things together in relation to the floods

Together with other community members we are able to change the situation

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

With other community members we feel somewhat in control of things, despite the damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

Together with other community members we feel able to organize ourselves to help those affected by the damage

Disagree strongly

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Agree strongly

In the following statements, please indicate how many times you did the following:

In relation to the December 2015 floods, how many times during the last 5 months did you:

Give equipment (e.g. tools, sandbags) to the flood-affected

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Donate money for the flood-affected

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Share information (e.g. on flood protection, re-housing, recovery, safety)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Help to move furniture in higher levels

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Help to clean properties

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Shared advice to neighbours on insurance claims

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Donate food

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Show concern for people's needs

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Listened to people's problems

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Give comfort to distressed community members

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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In relation to the December 2015 floods, how often during the past 5 months have you witnessed people from York:

Giving equipment (e.g. tools, sandbags)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Donating money

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Sharing information (e.g. on flood protection, re-housing, recovery, safety)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Helping to move furniture in higher levels

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Helping to clean properties

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Sharing advice to neighbours on insurance claims

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Donating food

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Showing concern for people's needs

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Listening to people's problems

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Giving comfort to distressed community members

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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In relation to the December 2015 floods, how often during the past 5 months have you witnessed people from York working with each other to:

Gather donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Sort out donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Coordinate how help is provided

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Assess the various community needs after the floods

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Discuss with the various authorities (council, agencies, emergency services)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Assist in cleanups of properties and public areas

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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In relation to the December 2015 floods, how often during the past 5 months have you worked with other people from York to:

Gather donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Sort out donations

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
--------------	---------------	----------------	----------------	------------------------

Coordinate how help is provided

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Assess the various community needs after the floods

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Discuss with the various authorities (council, agencies, emergency services)

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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Assist in cleanups of properties and public areas

<i>Never</i>	<i>1 time</i>	<i>2 times</i>	<i>3 times</i>	<i>4 times or more</i>
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In the following questions, please answer with a Yes or No, or indicate whether you were already prepared

After the December 2015 floods, have you now made plans for the following?

Gained knowledge on how to turn off water, gas, and electricity at home

Yes	No	I was already prepared for this
-----	----	---------------------------------

Emergency evacuation procedures at your home

Yes	No	I was already prepared for this
-----	----	---------------------------------

Moving furniture and valuable possessions on higher ground

Yes	No	I was already prepared for this
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Gathering of emergency evacuation supplies, clothes, or equipment

Yes	No	I was already prepared for this
-----	----	---------------------------------

Preparation to help elderly or vulnerable neighbours

Yes	No	I was already prepared for this
-----	----	---------------------------------

Signed up for flood warnings

Yes	No	I was already prepared for this
-----	----	---------------------------------

Learned how to use the internet for emergency advice or information

Yes	No	I was already prepared for this
-----	----	---------------------------------

Follow relevant flood groups that share useful information through social media

Yes	No	I was already prepared for this
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DEMOGRAPHICS (Please tick just one statement that applies to you)

What is your gender?

Male ☐

Female ☐

Other ☐

What is your age? Please write it below

Age: _____

How long have you been living in York for?

Less than 1 year ☐

1 to 5 years ☐

5 to 10 years ☐

More than 10 years ☐

Please specify your relationship status

Single ☐

Married or cohabiting ☐

Divorced or widowed or separated ☐

Other ☐ (please specify): _____

Do you have flood insurance for your house or possessions?

I have flood insurance for both my house and possessions ☐

I have flood insurance for my house ☐

I have flood insurance for my possessions ☐

I do not have flood insurance ☐

What is your highest education qualification?

Degree or equivalent ☐

Below degree level ☐

Other (foreign or other qualification) ☐

None (no formal qualification) ☐

Which of the following best describes your employment status? (please tick one)

- Working full time (30hrs/wk+) ☐
- Working part time (8–29 hrs/wk) ☐
- Stay-at-home parent / Homemaker / Housewife ☐
- Unemployed (registered) ☐
- Unemployed (not registered but looking for work) ☐
- Retired ☐
- Student ☐
- Other (inc. disabled) ☐
- Prefer not to say ☐

Please specify your income

- Less than £5,000 ☐
- £5,000 - £19,999 ☐
- £20,000 - £49,999 ☐
- £50,000 - £99,999 ☐
- £100,000 - £149,999 ☐
- More than £150,000 ☐
- Prefer not to say ☐

My address (Required if you want to take part in the follow up survey)

First Line: _____

Second Line: _____

Third Line: _____

Postcode: _____

E-mail: _____

Please indicate how you would like us to contact you in the future:

- By post including paper questionnaires ☐
- Email, including details of online questionnaires ☐

If you have any comments, please write them below:

Thank you for your participation