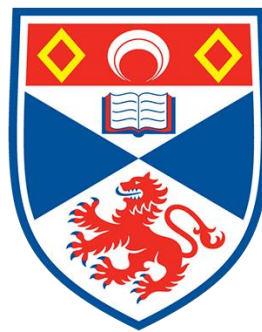


*THE ANTECEDENTS,
CONSEQUENCES AND TRAJECTORIES
OF SHARED IDENTITY IN
EMERGENCIES AND DISASTERS*

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St Andrews

This thesis is submitted in partial fulfilment for the degree of

Doctor of Philosophy (PhD)

at the University of St Andrews

October 2020

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ABSTRACT

Group processes in emergencies and disasters have been studied for decades by psychologists, and they have developed many theories to explain collective behaviours. One of the most recent and reasonable theoretical frameworks is the social identity model. The social identity model posits that it is the shared social identity that underpins various group behaviours, especially solidary behaviours, which were widely observed and reported in previous research. While there was abundant research showing that validated the social identity approach, there were still many questions unanswered. The present research sought to answer three general questions: (1) can the social identity model of collective behaviours in emergencies and disasters be applied in a non-Western background? (2) how does shared identity develop over time? (3) what factors may enhance or undermine the strength of shared identity?

Four studies were designed to answer these questions. Study 1 and study 2 were two field studies adopting an ethnographic approach. They sought to explore the research questions in general, but in two different settings – one about an earthquake in China, and the other about a flood in Ireland. By comparing the results of the two field studies, four factors that might influence shared identity were identified, and they were explored in lab experiments in study 3 and study 4.

Together, these studies have shown that: (1) the social identity model was useful in China and Ireland, and in an earthquake and a flood; (2) the trajectory of social identity could be short or long, and it could develop into several different subtypes, however, it did not seem to be a consequence of time per se, rather, it was caused by shared fate or shared memory; (3) severity of disaster, pre-existing unity, observed unity, and time were all found to have influenced the level of shared identity.

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I've written a few pages thanking everyone, however, I found it meaningless and could not continue writing it. First of all, if I really want to thank someone, I think that person should at least know it. Saying “thank you” in the acknowledgements, where they would not bother reading, just seems deceiving – it is not for them at all. It is simply for ME.

By writing these thank you letters, I was revisiting MY memories. These stories made sense to my four-year adventure and made me feel that MY life was not bad. It also made me feel that I was a good person – I was not ungrateful.

What a hypocrite I am when I cared only about me but disguised my true intentions with these impractical thanks!

I should do something practical to express my gratitude, such as buying a nice bottle of Whiskey to Steve. Other people whom I would like to thank will receive my sincere gratitude in person. Hopefully these could be done next summer. Since one of my previous classmates who now worked in the national medicine company has told me that the vaccines for COVID-19 was ready, I am really looking forward to going back to Scotland for the delayed graduation.

Anyway, after sorting out my fraudulent intentions, I deleted those insincere words. If this is all about me, then it is all about me:

Congratulations, Logan!

— Though you did the PhD badly, by your own standards.

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1 INTRODUCTION

In 2008, I was in the third year of high school. Just one month before the Chinese Gaokao (College Entrance Examination), the Great Earthquake of Wenchuan happened. I was so occupied with my “final” month of study that I did not spare too much time to care about the disaster. All I remembered was that “the whole nation was united” – not because I had witnessed anything beyond money donation, but because the word “unity” was all over the news. During that time, I wondered whether this whole unity fantasy was just a political propaganda so that people would be induced to behave that way. Admittedly, people outside Wenchuan showed great concern and many volunteered to help. However, such behaviour was more likely to be derived from sympathy rather than unity. More importantly, I had doubt whether people inside the disaster would be united – after all, there were always news about siblings turning against each other or against their parents over minor financial conflicts, especially in the less developed areas like Wenchuan. Therefore, it seemed reasonable for me to conjecture that people might be more selfish or radical in such an extreme situation.

Several years later, when I was studying psychology, I learnt that, contrary to my conjecture, people did become united in emergencies. There was abundant literature showing that people had a sense of unity and engaged in solidary behaviours in emergencies and disasters, such as Hurricane Katrina and the London Bombings, both of which happened in 2005. However, there was little literature about unity in disasters in the Chinese background. In fact, the majority of literature concerning the Wenchuan Earthquake was focused on mental health. The only social psychological component involved was that social support could improve mental well-being (e.g., Guo, Tian, Wang,

Xiao, He, Qu, & Zhang, 2015; Ke, Liu, & Li, 2010). To my knowledge, there was almost no literature addressing the social psychological aspects of survivors in the Wenchuan Earthquake. Therefore, my doubts still remain: do those results drawn from a Western background apply to the Chinese culture? Was there unity among the earthquake survivors in China? How did people react in the Wenchuan Earthquake? Finding out the applicability of the unity model in the Chinese culture was the first concern for my PhD programme.

In terms of explaining unity in natural disasters, the social identity approach was adopted in the present research project. The social identity approach posits that a shared social identity emerges in a disaster due to common fate, and that shared identity promotes solidarity and prosocial behaviour. Such shared identity was often referred as “unity” among participants.

The social identity model is straightforward and there is rich evidence for it from both qualitative and quantitative research. However, most of the research studied shared social identity in a broader context, such as the relationship between shared identity and other concepts such as mental health, resilience, and life satisfaction. Researchers wanted to know the role of shared identity in post-disaster social dynamics, for example, in a cross-sectional survey, shared identity and those concepts were measured, and a model would be generated according to the correlation data. In this way, shared identity is essentially treated as a static concept that does not change over time. Throughout the existing literature, the development of shared identity is overlooked. How shared identity emerges, develops, and fades or transforms over time remain unanswered. Henceforth, the second aim of my PhD programme is to look closer at shared identity, investigating the trajectory of shared identity in disasters.

As people’s sense of shared identity may fluctuate over time, it may also be changed by some factors in a shorter period. So far, we have known that shared identity in disasters is caused by common fate (e.g., Reicher, 1996; 1998), where people categorize themselves in one group as victims or survivors, and the common outgroup is the emergency or the disaster. However, not much is known about the moderators of shared identity: what factors could enhance or undermine shared identity? Not everyone in the disaster is closely linked to the group, and not every group in the disaster is cohesive. Why is that? Existing literature has shown little, if not none, evidence about the factors

that may alter the level of shared identity. Therefore, it is important to figure out factors that could influence shared identity, and this is the third aim of my thesis.

To summarize, my PhD research sought to answer three questions: (1) Is the social identity framework applicable to the outside the Western contexts where they have largely been studied? (2) How does shared identity develop over time? and (3) What factors may change the strength of shared identity?

The present research adopts a mixed method approach – both qualitative and quantitative methods were used. Two ethnographic field studies were designed to explore the research questions in more detail. The first field study was carried out in Yingxiu town, center of the 2008 Wenchuan Earthquake. This study aimed to answer: (1) whether there was evidence of shared identity in Yingxiu, (2) how shared identity developed over time, (3) whether there were multiple groups and whether they were united or divided, (4) who or which groups had higher levels of unity and who had less. The second field study was focused on flooding and it was carried out in a village in west Ireland. The research questions were basically the same as the earthquake study, and the aim of this study was to compare the results between the two different types of disasters in two different cultural backgrounds, which could potentially provide new insights into understanding shared identity.

After the two field studies, two experiments were designed to investigate the key findings of the field studies in a more controlled laboratory setting. The first experiment sought to explore the interaction of disaster severity and previous community spirit on shared identity and consequently, prosocial behaviour during the disaster. The second experiment was focused on the interaction of observed support during the disaster and time length (recent and remote time frame) from the disaster on shared identity and general prosocial behaviour.

The four studies constitute the main content of the thesis and hopefully, they could provide a clearer anatomy, and/or biography of shared identity in disasters.

2 LITERATURE REVIEW

2.1 Chapter overview

In this chapter, different frameworks and theories about disaster behaviour will be reviewed. To begin with, the traditionally well accepted – and perhaps still widely adopted by contemporary media – mass panic framework will be introduced. After discussing its theoretical background and limitations, I will move on to the resilience framework, where people are given more credit in their agency to cooperate and coordinate to cope with the disasters. I will briefly introduce the affiliation model and the emergent norm theory with their implications and limitations to explain solidarity in disasters. After that, I will focus on the social identity model, which was adopted as the guiding framework of my PhD programme. I will introduce (1) its theoretical history, (2) key concepts and variables of the model, and (3) evidence from both qualitative and quantitative research.

2.2 The “mass panic” tradition

Whenever there is an emergency, the word panic will be frequently mentioned by the media. Searching for the news about the recent coronavirus outbreak, it is not difficult to find articles titled with “panic”, for example, *Coronavirus: **panic and anger** in Wuhan as China orders city into lockdown* (<https://www.theguardian.com/world/2020/jan/23/coronavirus-panic-and-anger-in-wuhan-as-china-orders-city-into-lockdown>), and *Panic and Criticism Spread on Chinese Social Media Over Coronavirus* (<https://www.nytimes.com/2020/01/24/world/asia/china-social-media-coronavirus.html>), both of which implied that panicking seemed to be the primary reaction of people in the face of an emergency. In terms of explaining panic, Gustave Le Bon’s work is a public favourite: readers seem to love the theories of panic contagion and the irrational crowd, and the media is certainly happy to revisit his work repeatedly (e.g., *The contagious power of fear: why some believe that panic is a virus?* <https://www.newstatesman.com/science-tech/2020/03/contagious-power-fear-why-some-believe-panic-virus>).

Not only does the media favour the notion of a panic crowd, some disaster researchers also posit that people would engage in panic behaviour during emergencies, such as during escaping (where running to exits were seen as panic behaviour, see Yang, Wu, & Li, 2011) and post-disaster evacuation (where panic and panic spread were treated as the only psychosocial variables in their mathematical models, see Hu, Sheu, & Xiao, 2014).

Panic seems to be a popular account for group behaviour in emergencies.

The word ‘panic’ refers to ‘a sudden strong feeling of fear that prevents reasonable thought and action’ (Cambridge Dictionary, online). Therefore, when people think of a panic crowd, they often implied a group of people with inappropriate level of fear and may act inappropriately or recklessly (Mintz, 1951). This notion of crowd psychology in disasters can be theoretically traced back to Le Bon’s assertion that the crowd is less intelligent and rational than a lone individual, and people in the crowd are driven by simpler emotions (Le Bon, 1895). Similarly, there was also research showing that crowd reactions to disasters are disproportionate to the actual danger (Smelser, 1962), and that such pathological and maladaptive responses can be ‘contagious’ and spread across the crowd (McDougall, 1920). Moreover, the survival instinct was believed to be so strong that it could override social bonds in disasters, resulting in competition among individuals (Strauss, 1944).

Though historically favoured by some disaster researchers, the concept of ‘mass panic’ is not widely accepted in contemporary academic psychology and sociology (e.g. Johnson, 1987; Clarke, 2002; Sheppard, Rubin, Wardman, & Wessely, 2006). There are several critiques about the mass panic framework.

The first problem has to do with who judges a behaviour as panic, in terms of its implication of disorder and irrationality. To be specific, in the study mentioned above (Yang et al., 2011) where researchers studied the videos of people escaping buildings during an earthquake, people running to the exits was seen as panic. From the survivors’ perspective, however, running to the exits seemed to be the logical thing to do, and that since the building could fall in seconds, it was irrational that people stood in queues and exited orderly. Within an emergency, people often have very limited information, therefore, what seems post hoc to be an overaction might be reasonable and appropriate from their own perspectives (Sime, 1990).

Secondly, abundant research has shown that mass panic is not universal in emergencies. Some researchers believed that the frequency of panic in disasters was exaggerated, and that compared with other reactions, panic was relatively uncommon (e.g., Quarantelli, 1954). For example, in a study concerning the survivors of the 1977 Beverly Hills Supper Club Fire, the authors did not find any accounts of group panic, rather, they found that social order maintained during the escape (Johnston & Johnson, 1989). In a study interviewing survivors of the 2005 London Bombings, researchers found that while some people did say that people were “panicked”, more people used the term ‘calm’ and ‘orderly’ to describe the crowd (Drury, Cocking & Reicher, 2009a). Further analysis showed that “panic” was most of the time referred to feelings or emotions, rather than overt behaviour, such as reckless actions (Drury et al., 2009a).

As panic was not widely observed and reported in many kinds of emergencies, what researchers have largely found was solidarity and mutual support. At the Supper Club fire and the Who concert tragedy, those affected tried to help others during the evacuation, and not only did they help their families and friends, they helped strangers, too (Clarke, 2002). Also, in the 9/11 terrorist attack, almost all people below the crushed floors survived because they were highly organized and coordinated (Dynes, 2003). Existing social rules and civilization did not end with the crushing plane. Things were similar in the 2005 London bombings, where people quickly resumed composure after the explosion and tried to find their way out orderly while helping the injured (Wessely, 2005). While all those examples are focused on the emergent escaping period, there is also evidence showing that people support others consistently during a disaster. For example, researchers have documented that people would take boats to rescue their neighbours, share shelters, and provide supplies to others during Hurricane Katrina (Rodríguez, Trainor, & Quarantelli, 2006). In a recent study of 125 survivors from different emergencies across different countries in the Europe, researchers found that the most commonly reported behaviour was helping (Grimm, Hulse, Preiss, & Schmidt, 2014).

By giving these evidences of social support in emergencies, I do not mean to negate personal panic behaviour or emotions. The argument is that “mass panic” is problematic as there is little evidence showing that it happens on the group level. Panic may happen to a small number of people within an emergency, but it is not affecting the majority of people – for example, Connell (2001) found that there were only a small number of participants mentioning “panic” during the World Trade Centre evacuation. Moreover,

this “panic” was typically referred to the reaction of fleeing, which were better framed as actions of self-preservation than examples of panic.

Given that the mass panic model hardly gives a full picture of collective behaviour and that it provides little explanatory value, what social psychologists later adopt is the resilience framework, where collective self-help, coordination, mutual support, and self-recovery are emphasized. There are several social psychological models within the resilience framework: the affiliation model, the Emergent Norm Theory (ENT), and the social identity model, all of which seek to explain solidarity and cooperation within emergencies.

2.3 The affiliation approach

The affiliation approach posits that existing social bonds, especially family relationships, largely influence people’s behaviour during emergencies. To be specific, people tend to act with familiar people, even if their actions may increase potential risks. For example, during the evacuation of the World Trade Center tragedy, Aguirre, Wenger, and Vigo (1998) found that people who perceived more risks, such as seeing thicker smoke, would act more quickly in evacuation. However, such pattern was reversed if they were in a group of acquainted people: the more thoroughly they knew each other, the longer it took for them to begin to evacuate.

Seeking to act with or protect intimate ones could serve the evolutionary-adaptive function – even though personal risk may increase, this behaviour could better preserve the genes of the family. In young animals of different species, it was observed that attachment behaviour often took precedence over escape (Bowlby, 1973, p. 91).

For a more psychological explanation of this behaviour, Mawson (2005) has proposed the affiliation model. He posits that flight and affiliation are two sides on the same coin, and that how people react to emergencies is a function of the presence of the familiar and the severity of the situation. There are two key prerequisites for the theory: (1) in the case of an emergency, people are motivated to seek the familiar rather than fleeing; (2) the presence of the familiar has a ‘calming’ effect and reduces fear and anxiety. According to the affiliation model, (1) when a situation is perceived as mild and familiar people are present, people will seek proximity with the familiar; (2) when a situation is perceived as severe and familiar people are present, people will evacuate with the familiar

with occasional panic; (3) when a situation is mild and the familiar is not present, people will evacuate with strangers; (4) when a situation is severe and the familiar is not present, people will feel fearful and the group may develop into “mass panic” (Mawson, 2005).

One problem for the affiliation model is that it simplified people’s responses into a “flight or affiliate” dichotomy, where people either seek the familiar, or flee on their own. Therefore, the interactions among strangers are overlooked. In fact, abundant research has shown that strangers support each other during emergencies. For example, in the flight crash of American Airlines 1420 in 1999, strangers worked together to open an exit in the fuselage, and after that, flight attendants and “six to eight people” were asked to get out first (Clarke, 2002). In a study about “the Who Concert Stampede” in 1979, researchers found that 13 out of 17 who had received help were aided by strangers, and that 12 out of 16 who had given help gave it to people they did not know (Johnson, 1987). Henceforth, while people seek to stick with and support familiar ones constitute an important part of their behaviour, mutual help and support among strangers are also a significant feature of group behaviour under crisis.

Another limitation of the affiliation model is that it predicts that a group of strangers will develop into mass panic in the face of an emergency due to the absence of familiar members (no “calming” effects, see the fourth point of the four-fold model above). However, this is challenged by some empirical evidences about emergencies that involves mostly strangers. In a study about the 2005 London bombings, participants who survived the incident hardly reported any accounts of panic, while those survivors were mostly strangers to each other (Drury & Reicher, 2009). In a recent study re-examining the four-fold typology model Mawson (2005) proposed, the authors have found that when perceived danger was severe, people’s behaviour was characterized by mutual support and collaboration, with or without the presence of familiar ones – if there were no familiar people in the proximity, people would collaborate with people around them, even if they were strangers (Bartolucci & Magni, 2017).

To conclude, the affiliation model is useful in terms of its description of behaviour within familiar people, which is frequently observed in emergencies. However, its neglect of behaviour among strangers has constrained its scope to explain collective behaviour in a bigger picture. Moreover, it has over-emphasized the influence of the presence of familiar people that it has led to a prediction of mass panic in the absence of attachment, which was severely challenged by many empirical evidences.

2.4 The Emergent Norm Theory

In ordinary life, normative expectations dictate that the stronger and the more abled-bodied should help the weaker and the less abled, for example, in public transport, seats are expected to give to the pregnant, the old, and the disabled, etc., in priority. Research has shown that such norms may continue to function in emergent situations. For example, in “the Who Concert Stampede”, evidence of sex-role norms of men helping women was significant, albeit some instances of selfish competition such as pushing and trampling (Johnson, 1987).

Social psychologists have developed the Emergent Norm Theory (Turner & Killian, 1972) to explain normative behaviour, especially non-traditional normative behaviour, in emergencies. ENT posits that new normative behaviour emerges as a function of normative crisis brought by the precipitating situation in which people may feel uncertain (Turner & Killian, 1972). Such uncertainty urges people to create new norms to guide their behaviour and solve the norm ambiguity crisis. People are then forced to abandon previously established guidelines of action and they create new norms through interpersonal interaction about what is going on, what should be done, and who should do it. In the American Airline Flight Crash example I earlier mentioned, there emerged a new type of norm of priority – flight attendants and strangers were asked to escape first (Clarke, 2002), which was not normally the case in everyday life. For a more detailed example, during the 9/11 terrorist attack, researchers found that survivors discussed with others about what should be done, and some of them chose to stay to join the evacuation to help others without exiting the building themselves (Aguirre et al., 1998).

This form of discussion is called the milling and keynoting process (Turner & Killian, 1972), where people tried to define the situation and propose appropriate actions. While the milling process was observed in some cases, it was also found to be absent in many cases, especially in situations where there was simply no time for people to interact and reach a consensus. For example, during the 2008 Wenchuan earthquake, there were many reports about teachers sacrificing their life to save the students (e.g., People’s Daily, <http://zb.people.com.cn/GB/7447383.html>). The teachers’ life was taken in less than 2 minutes and they made the decision without discussing it with anyone. Even in situations where people had relatively enough time for communication, for example in the St Paul’s “Riot” in Bristol in 1980, Reicher (1984) has found that the onset of certain action sequences (e.g., throwing bricks at policemen and turning police cars over) seemed to be

immediate, precluding the milling process. Therefore, ENT has failed to explain either the speed of norm formation (norms can be applied immediately) or the content of norms (no keynoting process among participants). Moreover, ENT fails to specify what becomes normative and implies that anything might – for instance, will people follow anything a keynoter suggests? What if there are multiple keynoters suggesting different things?

In a more recent version of ENT, a revised normative model was proposed (Turner & Killian, 1987). In this model, mundane social situations and emergencies are both seen on the same continuum, henceforth, pre-existing social norms and restrictions apply in both occasions. The new model explains behaviour identified in emergencies that are common in mundane social life, such as queueing, helping the elder/pregnant/disabled, and conformity to gender roles. For example, Feinberg and Johnson (2001) have found that in the Beverly Hills Supper Club fire, the evacuation of the Cabaret Room has witnessed a set of norms that were consistent with ordinary social obligations, such as men helping women. This revised model is successful in explaining emergent normative behaviours that are consistent with mundane social norms, however, it is still unable to explain novel, quickly emerged norms in emergencies due to its problematic assumption of the milling and keynoting process.

Moreover, another problem with ENT is that it merely re-describes behaviour without further explanation of the process. Therefore, the theory seems to be caught in a vicious circle: Why do people help each other in emergencies? Because norms of helping are salient. How to prove that people have these norms? Abundant evidences have shown that people help each other in emergencies. In order to better understand the psychological process of norms of helping in emergencies, it is important to explain how the norms are activated, which the ENT has failed to do. Social psychological theories, such as Social Categorization Theory (SCT; Turner, 1981; Turner, Hogg, Oakes, Reicher, & Wetherell, 1989) could better explain how these norms develop. SCT posits that people have multiple group memberships with different norms, and it is only when certain group identity become salient that its corresponding norms are activated.

In the next section, I will introduce the social identity approach, deriving from SCT and Social Identity Theory (SIT, Tajfel & Turner, 1986), which can give a more dynamic explanation of psychological process in helping behaviour in emergencies.

2.5 The social identity approach

The basic proposition of the social identity model of collective behaviours in emergencies and disasters is that it is the shared social identity that unites people and motivates people to help others in the face of adversity. This shared social identity is often found in disaster research and described as a sense of ‘we-ness’ among survivors (Solomon & Smith, 1994; Kaniasty & Norris, 1999; Jencson, 2010). People often use ‘we’ or ‘our(s)’ when they refer to their actions and such ‘we-ness’ elicits a sense of unity and togetherness. In social psychology terms, this ‘we-ness’ can be conceptualized as shared identity. Shared identity is often caused by common fate – a sense that people are all infected by the incident. Common fate leads to emergent shared identity, which consequently makes people more likely to help each other because they see each other as ingroup members, instead of strangers. Compared with all the other theories I have reviewed before, the social identity approach has provided a dynamic explanation of the social-psychological process of solidary behaviour in emergencies, and it is therefore adopted as the guiding theoretical framework for my PhD research.

In the following section, I will give a thorough review of the social identity model of collective behaviour in emergencies and disasters. I will first map out its theoretical background, primarily SCT and SIT, to illustrate how the social identity approach is developed. Then I will introduce the content of this model, such as its key concepts, and antecedents and consequences of shared identity. Finally, I will summarize various work that has been done under the social identity framework, and then discuss the parts that need further exploration and explanation.

2.5.1 The history of the social identity approach

Social identity theory was originated from Henri Tajfel’s work on social perception of intergroup relations, group processes, and the social self, such as prejudice and racism (e.g., Tajfel, 1959, 1969, 1970), and it was later developed with John Turner and others to become fully formulated (e.g., Tajfel, 1978, 2010; Tajfel and Turner, 1986). In the mid-1980s, Turner made an important theoretical development of SIT, producing the Self-Categorization Theory (Turner, 1981; Turner et al., 1989). Although SCT is distinctive from SIT in some aspects, it is theoretically close enough to be considered as part of the social identity theory framework, and they are often combined into one composite, referred as the social identity approach (Hogg, Terry, & White, 1995).

2.5.1.1 The Social Identity Theory

The basic idea of SIT is that when people fall into a certain social category, this category will exert a power of defining who one is, namely self-concept, in terms of the distinctive characteristics of the category. People often belong to a range of different categories, and those memberships are represented as different social identities in people's self-concepts. SIT further proposes that people are eager to achieve or maintain a positive social identity so as to increase their self-esteem. This positive identity is achieved through comparisons between the ingroup and relevant outgroups. In the case of a "unfavourable" social identity, people may seek to leave their groups or strive to find ways to increase perceived positiveness in group characteristics.

Two socio-cognitive processes are critical to account for the social identity phenomena: categorization and self-enhancement.

The first one is categorization. Categorization defines group properties and sharpens group boundaries. It is a basic cognitive process that responds to both social and non-social stimuli. Henri Tajfel and colleagues argued that human interaction operates on a spectrum from entirely interpersonal to entirely intergroup. A purely interpersonal interaction involves no awareness of any social categories, while a purely intergroup interaction is entirely guided by group norms or expectations, as people are considered as representatives of their groups. Sliding from the interpersonal to the intergroup end involves the categorization process. Categorization changes people's self-concepts, making the relevant social identities salient, which consequently brings the emotional and evaluative properties of the group into people's self-image.

The "minimal group paradigm" (see Tajfel, Billig, Bundy, & Flament, 1971; Billig & Tajfel, 1973) has perfectly demonstrated the mere effect of categorization on group phenomena. The minimal group paradigm is a procedure that researchers adopt to create social groups in experiment settings. The groups are created based on minimal criteria that are relatively arbitrary and trivial. For example, one of the classic manipulations of the minimal group paradigm is to ask participants to rate paintings made by two artists with similar styles, and then tell participants that they belong to the group that favours one artist over the other. In reality, however, the participants are randomly assigned to each group. The participants remain anonymous during the experiment and they have no interaction with one another. Then, in a paper-and-pencil task, participants are asked to

distribute “money” to recipients that are only represented by their group membership. The results have shown that participants distributed more money to their ingroup members than outgroup members, a phenomenon known as ingroup favouritism. Ingroup favouritism is very robust and persistent in many studies that adopted the minimal group paradigm. It was observed even in complete random group assignment such as flipping a coin. Ingroup favouritism demonstrates how people favour new ingroups over new outgroups, and the underpinning mechanism, as argued by Tajfel and his colleagues, is social categorization. Though categorization, people are assigned to different social groups, which provide meaning to the social reality.

However, categorization alone cannot explain ingroup favouritism, or further, outgroup derogation, that is, treating the outgroup negatively. Categorization is supported by another cognitive process called self-enhancement, serving as the motivating principle of competitive intergroup behaviour. It is postulated that people have a basic need to maintain a positive self-concept and that since self-concept incorporates different social identities, this need can be satisfied in groups – by comparing the ingroup and the outgroup in a way that favours the ingroup, known as positive differentiation. In the minimal group paradigm, participants are categorized by these trivial or arbitrary cues and they are therefore associated with their corresponding groups. Moreover, a new social identity based on the new ingroup is developed and linked with self-concept. Participants would then treat their own new ingroup with favouritism in whatever manner the experiments offer, as this would positively distinguish the ingroup from the outgroup. By doing so, participants can evaluate their ingroups more positively, which further boosts or maintains a positive social identity, and protects or enhances their self-esteem.

While some social groups could bring positive evaluations to the self, some other groups may threaten or undermine self-esteem. For example, in some cultures, being homosexual is not accepted by the public. What happens when one belongs to a negative social group? Theorists then outlined a variety of behaviours of how a member of a disadvantaged group (in terms of relatively low social status) can re-achieve a positive social identity (Tajfel & Turner, 1979; Turner & Brown, 1978; Hogg & Abrams, 1988). These behaviours or strategies depend on people’s subjective understanding of the nature of the relations between groups, known as subjective belief structures. These structures are internalized representations of social belief systems, however, they are not necessarily accurate reflections of the reality as they may be ideological. These subjective structures

depend on (1) the relative status of groups, (2) the stability of intergroup relations, (3) the legitimacy of these relations, and (4) the permeability of intergroup boundaries (psychologically changing one's group to another) and social change (psychologically changing the self-evaluations of existing ingroup membership). The subjective belief structures then influence the behaviours people take to enhance their self-esteem via evaluative positive social identities. For example, if a group considers its low social status is legitimate and stable, but it is possible to move to a more dominant group, members of this group are very likely to leave the group. This is called **individual mobility**, where the individual acts to improve personal status, while the status of the group remains unchanged. A second strategy is **social competition**, where group members work jointly to directly compete with the outgroup to improve their situation or even reverse the relative intergroup status. This happens when a group believes that its lower status is relatively illegitimate and unstable, and that it is not possible to pass to a new group, and that a different social order is achievable. The third strategy is called **social creativity**, where the enhancement of group status is achieved by adjusting some elements of intergroup comparison. This includes making downward intergroup comparisons, focusing only on the features that make the ingroup look good, and devaluing dimensions that undermine ingroup image and even reverse it to positive characteristics. These strategies are often considered cognitive as they change people's subjective perceptions of the group status, instead of making objective differences. Nevertheless, these strategies can constitute the first step to social change, because they help preserve positive group identities and can over time empower group members to take collective actions to really improve their group status.

To summarize, the social identity theory is a useful tool to understand group behaviour and intergroup relations. Through social categorization, social comparison, and positive differentiation, people develop a certain social identity and strive to maintain a positive image of it. Groups become empowered to change their situation when they act in terms of a common social identity, which is the premise that underlies all the social change analysis, including collective behaviours in emergencies and disasters, and it is thus the core theoretical concept of my work.

2.5.1.2 The Self-Categorization Theory

While SIT seeks to explain intergroup relationships, SCT is primarily focused on intragroup processes, with an emphasis on the cognitive element of the theory – the

categorization process, one of the fundamental assumptions of SIT, as illustrated in the previous section.

Instead of using the interpersonal-intergroup spectrum, Turner and colleagues proposed three levels of self-categorization that are important to people's self-concept: (1) the superordinate level of oneself as human being, as compared with other living beings (human identity), (2) the intermediate level of oneself as a member of a certain group, as compared with other groups (social identity), and (3) the subordinate level of the self as compared with other individuals (personal identity). Since SCT seeks to explain socio-psychological processes of group behaviour, theorists spent a lot of time exploring and elaborating the intermediate level, i.e., social identity.

People often belong to multiple social groups and therefore have a repertoire of different social identities, which vary in their relative importance to the self-concept. These social identities are not salient all the time, rather, they are socially sensitive, such that a particular identity will become salient in a certain context. According to SCT, self-categorization happens as a function of accessibility and fit (Turner et al., 1989; Oakes, Turner, & Haslam, 1991). Some categories are accessible if they are primed in the situation, such as a football fan watching a match; while some categories are more prolonged in people's mind if they are frequently activated (e.g., me as Asian in a Scottish university) or if people are motivated to use them (e.g., being a psychologist). Fit refers to the extent to which a social category matches social reality. There are two types of fit: (1) **comparative fit**, meaning that the category distinction maximizes inter-category differences and minimizes intra-category differences, which is also known as the meta-contrast process, (2) **normative fit**, it is achieved when social behaviour or personal attributes are in line with stereotypical expectations of a certain group. These processes are highly dynamic, in seeking to maximize meaning in a given context, providing whatever category that is accessible and fits the similarities and differences best. Moreover, the self-categorization process also has an accentuation effect – it amplifies similarities between ingroup members and perceived differences between members that belong to different categories.

Again, as mentioned in SIT, categorization is a basic cognitive process and it alone cannot explain complex social behaviours. What account for various social behaviours is a process called “depersonalization”, that is, when a category becomes salient, people are perceived as and act as representatives of that category; they will see themselves and other

group members as interchangeable exemplars of group prototypes (see Drury & Reicher, 1999; Levine, Prosser, Evans, & Reicher, 2005). A prototype is a subjective representation of defining attributes of a certain category. The prototype of a group is not static, rather, it is context-dependent, seeking to minimize intragroup differences and maximize intergroup differences. Depersonalization does not contain any of the negative presumptions of concepts like deindividuation or dehumanization, instead, it simply refers to a change in perception of the self and the others (Reicher, Spears, & Postmes, 1995). Depersonalization transforms individual identity into group identities, prescribing what attitudes, emotions, and behaviours are appropriate in a given context. Depersonalization process is seen as the underlying mechanism for many group phenomena, such as stereotyping, ethnocentrism, cooperation, empathy, conformity and shared norms.

Instead of exploring self-enhancement or self-esteem motivations, as explained in SIT, SCT proposes epistemic motives in social identification contexts. To be specific, SCT suggests that people may be fundamentally motivated to reduce subjective uncertainty about their feelings, behaviour, thoughts and self-concept, and the deindividuation process satisfies this motive well (Hogg & Abrams, 1993; Hogg & Mullin, 1999). A salient social categorization that very well matches social reality (comparative fit and normative fit) could provide meaning for people's behaviour and accounts for the similarities and differences among people, and it is therefore useful in reducing uncertainty.

In general, SCT seeks to explain group phenomena from a social cognitive and intrapersonal point of view, that is, the mechanisms under which individuals become united into psychological groups. While elaborating on the self-categorization process explored in SIT, it further specifies the deindividualization process that underpins the transformation from individual identity to group identity, as well as the various group phenomena that are group prototypical.

To summarize, SIT and SCT both seek to explore the cognitive elements of group phenomena, where SIT mainly focuses on intergroup relations and SCT puts an emphasis on intragroup processes. Despite the difference of their foci, they are theoretically and meta-theoretically close enough to be considered part of the same theory or approach, i.e. the social identity approach (Abrams & Hogg, 1990). The fundamental theoretical concept of the social identity approach is that social identification of a group is at the core

of group phenomena. The social identity approach has shed light on many social behaviours, including those that occurs in emergencies and disasters. In the next two sections, I will first introduce the application of the social identity approach in group behaviours. Then I will illustrate how the social identity approach is applied in understanding and explaining group behaviour in emergencies and line out the concrete theoretical model that is adopted in my research.

2.5.2 The social identity approach in understanding and explaining group behaviours

In an extended analysis of the minimal group paradigm, Turner (1982) has argued that the production of the distinctive group behaviour that participants favoured the ingroup was only possible because of the shared social identity. That was, the participants were only to act as members of the given group if they saw themselves as the members of that group. Turner believed that this was true for all other groups, unions, teams, and societies, etc. In other words, without social identity, group behaviour is impossible (Turner, 1982).

Turner's argument provided a cognitive analysis of the social identity approach in group phenomena. It suggested that there was a cognitive shift among group members from "I" to "we", which served as a common perspective to regulate thought and judgement. In this sense, individual goals, values, and behavioural standards were transformed into shared goals, values, and behavioural standards. This could be termed as the *representational* sense of shared identity (Reicher, 2011).

However, the cognitive shift from a personal identity to a group identity does not automatically result in collective behaviour. It also requires a *relational* shift in people's perceptions, that is, an identity is shared in a sense that people believe each other to define themselves in the same category (Reicher, 2011). Through this relational shift, group members would stop treating fellow ingroup members as others but would then orient to them as intimates. This could be termed as the *meta-representational* sense of shared identity. This meta-representational element of shared identity has extended and enriched the previous cognitive analysis of shared social identity and added a meta-cognitive component of it. The relational shift, or relatedness, as termed and studied by Neville and Reicher (2013), allowed participants (Dundee United fans) to feel connected to, and recognized by other group members, accompanied by a validation of their beliefs,

identities, and emotions. In general, people are more likely to respect and trust those who they see as ingroup members. They are more likely to justify their decisions and less likely to see their decisions negatively. They are more likely to help each other and expect help from each other (for reviews, see Haslam & Reicher, 2007; Reicher & Haslam, 2010).

Apart from the cognitive and relational shifts, shared identity also involves an affective shift component, which is based on the previous two types of transformations. The affective shift refers to the emotional or affective involvement with the group, and it also engenders a sense of efficacy or empowerment, which consequently leads to coordinated actions and self-regulations to ensure group safety, and hence to enhanced well-being (see Ellemers, Kortekaas, & Ouwerkerk, 1999; Drury et al., 2018). This account has been elsewhere studied and referred to as part of the collective resilience model (e.g., Drury, 2012; Williams & Drury, 2009) and part of the “social cure” approach (Haslam, Jetten, Cruwys, Dingle, & Haslam, 2018). The social cure approach emphasizes the connection between social identity and wellbeing – it posits that social identities are crucial and beneficial to health. It is argued that this is because various social identities provide people with various forms of meaningful social life and consequently give people access to important social and psychological resources (Jetten, Haslam, & Haslam, 2012; Jetten, Haslam, Haslam, Dingle, & Jones, 2014). The more group memberships people have internalized as part of their self-identities, the better their physical and psychological wellbeing. To be specific, the psychological resources derived from shared social identities include: (1) connectedness and positive orientation to others. This social connection – the sense that people feel psychologically close to others – has been proved to have profound implications for health and it also enhances liking, openness, trust, and desire for mutual interaction among group members. (2) Meaning, purpose, and worth. As groups often spend much time pursuing certain collective goals, or working towards particular collective outcomes, such as preparing a conference and winning the European Champions League, they simultaneously imbue group members with a sense of common direction and purpose, since they have channeled much of people’s attention, time and energy. (3) Control, efficacy, and power. A sense of social identity is capable of imbuing people with a sense that they have control over their lives, which consequently leads to enhanced efficacy and sense of power at both group level and individual level, for example, in the face of adversities (e.g., dementia, see Clare, Rowlands, & Quin, 2008) and in collective actions (e.g., anti-road activities, see Cocking & Drury, 2010). (4) Social support. As group members define themselves in the same social category, they are

motivated to engage with others in ways that aims to prioritize or advance collective interests. One of the most convenient ways to practice this is to help each other out, especially when group members are caught in difficulties and adversities. Besides providing actual help to each other, people also expect more help from one another, and they would construe the help in a more positive way if it is provided by ingroup members (Haslam, Reicher, & Levine, 2012).

This line of research, especially those focused on collective efficacy and social support, has been widely explored in disasters and emergencies. For example, it has been found that among the survivors of the 1999 Kosovo conflict, those who evaluated the war as affirming their group identity showed lower levels of depressive mood and anxiety and higher levels of self-efficacy (Kellezi, Reicher, & Cassidy, 2009). In a study concerning community recovery after Hurricane Katrina in 2005, researchers found that shared narrative and shared identity could shape the recovery strategies people adopt, such as encouraged self-reliance, fulfilled by emphasizing an ethic of hardworking and celebrating community history of overcoming challenges, which facilitated community recovery (Chamlee-Wright & Storr, 2011). In a survey study following the 2012 earthquake in Emilia-Romagna, Italy, researchers found that a shared group identity as victims of the disaster could promote more positive and supportive relations between both the majority group and the minority group (i.e., immigrants, see Vezzali, Cadamuro, Versari, Giovannini, & Trifiletti, 2015).

The social identity phenomenon was also found to play an important role in people's responses to traumatic events. Firstly, it was found that different social identities could shape exposure to and interpretation of traumatic experiences. For example, in a three-year longitudinal study tracking stressfulness among 113 seven to eight-year-old children, it was found that there was gender difference in perceiving different events as stressful, and that being Catholic was associated with increased fear and threat compared with being Protestant (Muldoon, 2003). Secondly, responses to trauma were related with identification with trauma-relevant groups. In a large-scale survey ($N=2000$) investigating Northern Irish people's political conflict experience, Schmid and Muldoon (2015) found that social identification (in this case, national identification) had mediated the relationship between perceived intergroup threat and psychological well-being, which were negatively correlated with each other. Social identification increased with perceived threat, and it consequently promoted mental well-being. In another word, social

identification buffered the negative effect of conflicts on well-being. Similarly, in a longitudinal survey study investigating post-traumatic stress and post-traumatic growth among survivors of an earthquake in Nepal, Muldoon and colleagues (2017) found that community identification had mediated the relationship between earthquake experience and post-traumatic growth. Thirdly, maintaining valuable social identities and developing new identities were both found to be able to reduce post-traumatic stress (for a systematic review, see Muldoon, Haslam, Haslam, Cruwys, Kearns, & Jetten, 2019).

These evidences have shown that a shared social identity had played an important role in the disaster recovery process, in relation to efficacy, recovery strategy, mental well-being and social support. They have also served as part of the theoretical basis for my PhD work. In the next section, I will integrate all the theories and evidences illustrated above, and then line out the theoretical model I adopt in my thesis.

2.5.3 The social identity approach of group behaviours in emergencies and disasters

The basic logic of the social identity approach is that a shared social identity among those who are involved in emergencies stands at the core of collective behaviour. It is argued that common fate – a shared sense of everyone being influenced by the emergency or disaster – serves as the primary element for self-categorization, as suggested by SCT (e.g., Turner, 1982; Reicher, 1996; Stott & Drury, 2000). This categorization consequently leads to the formation of a shared social identity. According to SIT and SCT, a salient group identity would make group members engage in behaviours that favors the ingroup, which, in an emergent situation, often take the form of mutual support and altruistic behaviours. This “common fate – shared identity – solidarity” pathway serves as the fundamental theoretical framework of my thesis.

There is one conceptual matter that should be clarified is that of “shared identity” and “social identity”. As argued by Neville and Reicher (2011, also see Neville, Novelli, Drury, & Reicher, 2020), shared identity that emerged from sudden (emergent) events was different from other established social identities in a way that it involved a relational or meta-perceptive component. To be specific, it was not only the perceived similarity (often due to common fate) among the participants that defined this emergent shared identity, but also the belief that others would think and act the same that solidified shared

identity. Therefore, in the following part of the thesis, I will use “shared identity” instead of “social identity” to refer to this type of identity.

In a recent review of the social identity model of collective behaviours in emergencies and disasters, Drury (2018) has summarized various types of work under this topic and outlined the following model (see Figure 2.1).

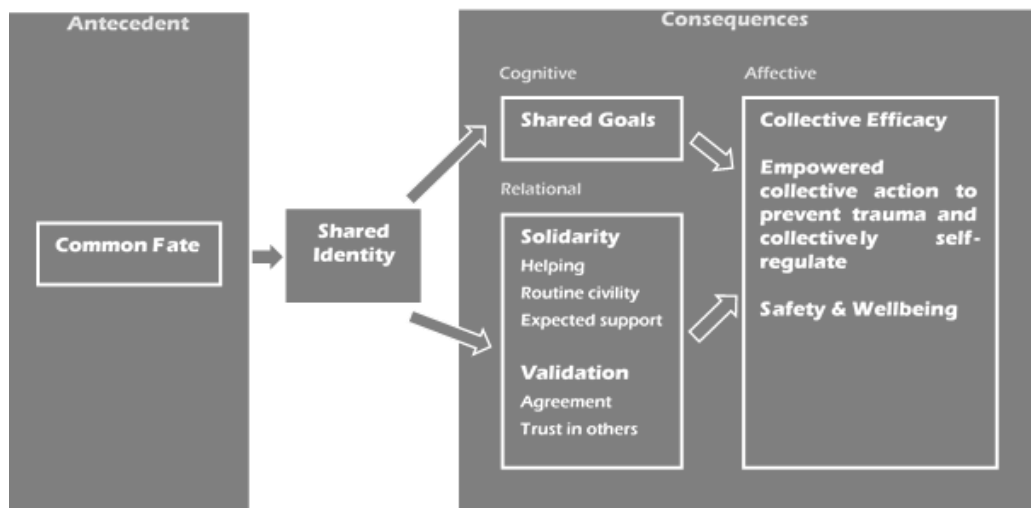


Figure 2.1 A social identity model of collective behaviour in emergencies and disasters, proposed by Drury (2012)

A key argument of the social identity model is that common fate is the antecedent of shared identity. It is common fate that connects people, making them fall into the same group as victims or survivors. Researchers have long recognized the link between common suffering and altruistic behaviours, for example, Fritz and Williams (1957) stated that common suffering and common threat could break down pre-existing social distinctions and result in “love, generosity, and altruism” (p. 48; for similar argument, also see Kaniasty & Norris, 1999; Solnit, 2010). Despite the usefulness of the observations and descriptions of this connection, the mechanism under it remains unanswered. The social identity approach could provide a detailed explanation of the psychological process beneath it.

A group of people caught in an emergency can range between complete strangers and a well-established group with an existing identity. In social psychological terms, the physical crowd of people (an aggregation of people in the same location) in emergencies could contain one or more psychological crowds (a group of people with a social identity; see Reicher & Haslam, 2010). The transition from the physical crowd to the psychological

crowd of an emergent shared identity involves the self-categorization process – according to the comparative fit principle discussed in the previous section, perceiving oneself and others as victims or survivors strengthens ingroup similarity and clarifies the group boundary, and in the context of an emergency or disaster, this categorization best reflects social reality. For example, in the 1989 Hillsborough football stadium disaster, people were separated Liverpool fans and Nottingham Forrest fans before the stampede, however, when the disaster was happening, “*people stopped being supporters of a football team and were just people*” (Drury, Cocking, & Reicher, 2009). Similarly, in intergroup conflicts, it has been documented that when experiencing indiscriminate police actions, separated small groups or individuals perceived themselves as united into one larger group against the police forces (Stott & Reicher, 1998; Reicher, 1996). It is worth noting that, in some emergencies or disasters, such as the 1989 stampede or an earthquake, the outgroup is not really a group of human beings but rather the emergency itself – at least in the emergent phase of the incident.

As common fate causes people to categorize themselves as “those of us affected by the emergency”, there is a shift from “me in relation to others” to “us in relation to the emergency” (Drury, 2018). This shift makes the emergent shared identity salient, which consequently motivates behaviours of solidarity and altruism. This is because people with a salient group identity tend to see themselves as interchangeable members of the group (Turner, 1981), and therefore helping and caring about others is at some level helping and caring about themselves.

While mutual support is widely observed in emergencies and disasters, it is not the only outcome of shared identity. According to Reicher (2010), there are three types of psychological transformations (i.e., consequences) of shared identity – cognitive, relational, and affective – as illustrated in Figure 1. The cognitive transformation refers to the shift from personal values, goals, and behavioural standards to shared values, goals, and standards. The relational transformation concerns the interaction between people with a shared identity and it has two dimensions: (1) solidarity – not only does it include routine civility (e.g., cooperation) and provided support, it also includes expected support from others with this shared identity. (2) validation means that people will expect and seek agreements with other group members and that they tend to trust each other’s judgements. The cognitive transformation and relational transformation form the basis for affective transformation. Shared goals, values and solidarity enhances the sense of

collective efficacy, and hence the sense of empowerment in coordinate actions, and also the regulation of personal behaviour in accordance with group norms and expectations.

To conclude, the social identity approach has provided a dynamic socio-psychological examination and explanation of crowd behaviours in emergencies and disasters. There is plenty of evidence supports and validates this model. In the next section, I will summarize various type of work that has been done within the social identity framework.

2.5.4 Empirical evidence for the social identity approach of collective behaviour in emergencies and disasters

In a series of VR simulation experiments, social psychologists created a computer visualization of a fire in an underground rail station (Drury, Cocking, Reicher, Burton, Schofield, Hardwick, Graham, & Langston, 2009). It was hypothesized that in the situation of an emergency evacuation, there would be greater social support and less individual competition among the participants when there was a salient shared social identity than when there was no salient shared identity. Participants were seated in front of a computer, controlling a character moving in the station. Then they were instructed that there was a fire breaking out and that they needed to evacuate as quickly as possible. The simulation scene was populated by NPCs (non-player characters) that were presented as either the participants' ingroup members (e.g., fellow students in the same university, or fans of the same football team) or simply strangers. The urgency to evacuate was indicated by a "danger bar" informing participants how long they had to escape death. During the simulation, participants received four requests for help by the NPCs: helping would slow down the escape and ignoring the requests would save more time for evacuation. Meanwhile, the participants had unlimited chances to push the NPCs aside, which would accelerate their own escape. Both helping and pushing could be accomplished by a corresponding key. Besides these behavioural measures, participants also reported their identification with the crowd, liking of the NPCs and concern for others. In general, the results have shown that: (1) collective identification was enhanced by the shared threat participants faced in the emergency, (2) participants in the high identification condition helped more and pushed others less than those in the low identification group. By both measuring and manipulating identification, researchers have shown that shared identity increased solidary and supportive behaviours, and reduced competitive behaviours in emergencies.

While experiments can be created in a more controlled condition and hence have an advantage in examining variables in a more nuanced manner, they may also face problems of low ecological validity due to the lack of real threat to participants (Drury, 2018). That is, participants did not experience the real threats that defined an emergency and hence might not have exhibited the behaviours they would exert in real life. Therefore, it is also important to look at evidence drawn from real-world studies. Moreover, while these experiments have provided some *prima facie* evidences of the link between social identity and solidarity, one problem of the design was that the identification with the NPCs were prescribed – participants “happened” to evacuate with their fellow students or football fans. In real-world emergencies, people are not always surrounded by people they identify with, however, there is evidence that a shared social identity would be developed quickly after the emergency and serve as a precursor for solidary behaviours. This was perfectly documented and discussed by the following study.

The study sought to explore the 2005 London Bombings from a social psychological perspective. The event took place on 7 July, where there were four bombs exploded on the London transport system, three on the tube trains and one on a bus. There were fifty-six people killed and over seven hundred people injured during the event. The high profile of the event led to considerable media coverage and the researchers made full use of this source of data. They have collected 141 accounts from 18 newspapers produced in the days immediately after the event, which included statements from eyewitnesses, survivors, and commentators (Drury et al., 2009a). Then they managed to collect some personal accounts from public archives, such as the London Assembly review hearing report (June 2006), news websites (primarily BBC), blogs and message boards. As these two sources of data came from public reports or archives, they were considered as the secondary data. Besides the secondary data, the researchers have also acquired the primary data by face-to-face interviews with survivors. Through thematic analysis and triangulation across different sources of data, researchers found that (1) instead of selfishness and competition, mutual help and concern was predominant among survivors, most of who were strangers, (2) there was a sense of unity among some participants and there were almost no accounts of disunity, (3) this sense of unity arose from perceived danger, (4) there was an association between sense of unity and helping. The researchers have outlined a clear pathway of the social identity model of collective behaviours in emergencies: common fate (perceived danger) was linked with shared identity (unity), and shared identity was related to solidarity. The results have shown that even among almost complete strangers,

a sense of shared identity could occur due to common fate, and this sense of unity was at the core of solidary behaviours during the emergency.

While this case study has successfully revealed the connections between common fate, shared identity and solidarity, it was limited in a way that there were no comparisons in different events and people's responses. For example, reports of help were overwhelmingly numerous so that the results lacked variability in general. In addition, what happened in this case might not be applied in different types of emergencies, where the complexity of the situation (e.g., perceived and real danger) and the population (e.g., number of people involved; gender ratio) may exert a strong influence on people's perceptions and behaviours. The next study has perfectly solved this issue via a comparative design.

Drury, Cocking, and Reicher (2009b) interviewed 21 survivors from 11 different emergency events, including genuine emergencies (e.g., sinking of the *Jupiter*, Hillsborough football stadium disaster, Bradford football stadium fire), false alarms (e.g., Canary Wharf and Frankfurt tower block emergency evacuations) and one "near-disaster" (BBB2 music event). Despite the differences, in all of these cases, there was perceived danger of death and obvious time-limited exit. Similar to the previous study, the authors found that (1) the shared experience of the emergency gave rise to the sense of shared identity, and (2) shared identity enhanced solidarity and reduced "panic" behaviour. The result, again, has provide evidence for the "common fate – shared identity – solidarity" pathway, however, one unique contribution of the study is that the model was found to be universal across all these events. Moreover, the authors have divided the participants into high-identifiers and low-identifiers and compared the two groups of people in terms of key variables such as unity, orderliness, and solidarity. The results have shown that, compared with participants who had low identification with the group, those who had high identification with the group had more people reporting shared danger (92% vs 66%), order and calm (42% vs 22%), more everyday rules (67% vs 33%), more normal rules (83% vs 56%), and curtesy (25% vs 11%). Though the making of the groups was post hoc and in no way was this study comparable to experiments in terms of controlling covariates, the differences exhibited between the groups have nonetheless suggested that shared identity was not only "associated" with solidarity, rather, it could predict solidary behaviours, or in another word, it could be positively correlated with solidary behaviours. This was statistically tested in the following survey study.

Researchers conducted a survey to 1240 adults who were affected by the 2010 Chile earthquake (Drury, Brown, González, & Miranda, 2016). The earthquake happened offshore in the Maule river region, which consequently resulted in a tsunami. There were 521 fatalities and many more severely injured. Nine percent of the population in the affected area lost their homes. There were nationwide disruptions to power, road, and communication networks as well. The study was carried out as part of a survey of solidary behaviours among Chileans initiated by the MIDE UC Measurement Centre in Chile. While keeping the core framework of the three key variables of the social identity model (i.e., common fate, shared identity, and solidarity), the authors also included observed support (emotional and coordinated) and expected support, so that they could explore the mechanism of the social identity model in more detail. Once again, the path model of “common fate – shared identity – solidarity” was confirmed by the results. In addition, the results also showed that (1) observed emotional support predicted provided emotional support and provided coordinated support, (2) observed coordinated support predicted provided emotional support and provided coordinated support, (3) expected support mediate the relationship between social identification and collective efficacy, the relationship between observed emotional support and provided coordinated support, and the relationship between observed coordinated support and provided coordinated support. The authors further tested the moderating effect of social identification and found that the links between observed help and provided help were stronger among high identifiers than low identifiers. By using structural equation modelling technique, this study has first tested the social identity model statistically and provided causal evidence for the theoretical pathway.

In summary, these studies have provided convergent evidence for the usefulness of the shared identity approach in understanding collective behaviours during emergencies and disasters, and together they have successfully outlined the fundamental structure of the shared identity model: common fate leads to shared identity, which further enhances solidarity. While the existing evidences are vital and inspiring, there are still some questions remain unanswered. In the next section, I will first discuss the gaps in this line of research, and then introduce my research questions.

2.5.5 Limitations of the previous research and research questions of the present thesis

From the review of the previous research in the social identity model of collective behaviour in emergencies and disasters, it is not difficult to notice that most of the work has been done in western cultures (and Chile), and to my knowledge, there is almost no literature covering the social dynamics among the survivors of any disasters in East Asian cultures. Would East Asian people show more unity and solidarity in emergencies, because the East Asian culture is often considered as collectivistic, so that people tend to prioritize group welfare over individual welfare? Or would East Asian people show less unity and solidarity in emergencies, because East Asian culture values the notion of a complete and prosperous family, so that people tend to prioritize their own families over the others, which could potentially lead to competition and selfishness? These questions need to be answered, and by doing so, it also helps to add evidence to the generalizability of the social identity model of disasters and emergencies. Therefore, the first general question of my research is: can the social identity model of collective behaviours in emergencies and disasters be applied in a non-Western background?

Another limitation of the existing research is that, the majority of the studies seemed to simply take snapshots of the emergency, that is, a lot of the studies were focused on the emergent phase of the events, such as evacuation behaviour, whereas the development and transition of shared identity and its consequences are rarely researched. While some types of emergencies are relatively short by its nature, such as bombing, where survivors might just leave the site after the explosion and never see each other again; some other types of emergencies or disasters may involve wider groups of people apart from survivors, and there may also be secondary stressors that trouble people for a long time. For example, in an earthquake, people first have to survive the initial shakes, then they are very likely to spend weeks, months or even years to deal with psychological distress, during which they also need to rebuild their houses or wait for the reconstruction, which could take years to finish. In this case, the emergent survivors' group could exist for a long time and so could shared identity among them. Therefore, it is important to examine the wax and wane of shared identity over time, instead of simply taking a snapshot of it and focusing only on the emergent period of the event. Overall, there is not much literature addressing this issue, except some scattered evidences. For example, in a study exploring post-flood collective resilience, the authors investigated social identity processes in the long term, and they found that the sense of togetherness naturally

declined over time, but it could be maintained by the persistence of social support, and it could be re-affirmed by commemorations, anniversaries and other community rituals (Ntontis, Drury, Amlôt, Rubin, & Williams, 2020). While this study has done some pioneer work in exploring the long-term development of the social identity processes, its results were limited in terms of generalizability as they were drawn from a single case. Therefore, it is important to explore this issue in more depth and width, such as investigating the trajectory of shared identity in different contexts (e.g., different emergencies or disasters, different cultures, and different communities) and different time periods (e.g., months of influence vs years of influence). Henceforth, my second general question is: how does shared identity develop over time? How does it emerge, develop, fade or sustain?

The third question I asked concerned the development of the social identity model. While convergent evidences have shown that the basic structure of the model is robust, very little research has been done regarding the moderators of shared identity. Drury et al.'s work (2016) has shown that different levels of shared identity resulted in different levels of behavioural outputs. However, what enhances or undermines shared identity remain unexplored, for example, will people with an existing social identity (e.g., fellow villagers, which is not uncommon in emergencies that hit a certain area, such as a flood) have stronger sense of shared identity than the group comprised of mainly strangers? In addition, shared identity is not static, rather, it is dynamic and can be shaped by people's interactions (e.g. Reicher, 1996; Stott & Drury, 2000; Drury, 2018). What kind of interactions could encourage shared identity and what could undermine it? Will people still remain united if they observe little unity among themselves? So far, there are no clear answers to these questions. In general, as shown in Figure 1, there is rich literature covering the consequences of shared identity, however, not much work has been done concerning the factors that influence shared identity, except that common fate is the antecedent of it. Therefore, my third general research question is: what factors may enhance or undermine shared identity?

In order to systematically explore these questions, my overall research plan was to first conduct qualitative studies to answer the questions in general, and then I would carry out experiments to test the hypotheses generated from the qualitative work. In the next chapter, I will introduce the four studies I conducted and outline the connections between them.

3 OVERVIEW OF THE THESIS

In this chapter, I will outline the structure of my thesis and introduce the methodological and analytic approaches. I will first recap the general research questions. Then I will explain my methodological approach. After that, I will give a summary of the four studies that have been done, with their specific rationales, research questions, methods, and analytic procedures.

3.1 General research questions

As discussed in the previous chapter, the present PhD programme sought to investigate the trajectory of shared identity and to explore some of the moderators of it. To be specific, I wanted to know: (1) whether there were cultural differences in the application of the social identity approach: will the social identity model be applied in the Chinese culture? (2) a chronological profile of shared identity: how it emerges, develops and disappears over time? (3) moderators of shared identity: what factors may enhance shared identity and what factors may undermine it?

3.2 Methodology

The present research adopts a mixed-method approach. One consideration is that of methodological triangulation (Denzin, 2017), through which the weakness of a single method could be decreased and hence the validity of the studies will be increased. The other consideration is that since my research questions are relatively general and lack empirical evidence, it is necessary to explore these questions in a qualitative approach to understand these questions comprehensively. For example, while behavioural patterns or trends are of importance to the analysis, participants' accounts will not be "averaged" during the analysis, rather, both the popular accounts and "deviant" accounts will be analyzed and discussed. This makes it possible for me to explore the data as thoroughly as possible without losing or neglecting some part of the data. In addition, qualitative studies also help to develop and generate more specific hypotheses for quantitative tests. The experiments allow me to investigate the hypotheses in a controlled context, where the influence of confounds are minimized. Moreover, compared to survey studies (e.g.,

the Chile study, Drury, 2016), experiments could give me more confidence to conclude causal relationships between factors, which was scarcely introduced in previous research. In this sense, the experiments could make important theoretical contributions in terms of validating the social identity model in emergencies and disasters. Therefore, the overall methodology plan for the present research was to conduct qualitative studies first, then carry out the quantitative studies. To be specific, study 1 and study 2 adopted an ethnographic approach, where participant observation, casual chatting, archive collecting, and interviewing techniques were used to collect data; study 3 and study 4 were social experiments in controlled lab settings. In the next section, I will introduce these four studies more thoroughly, in terms of their corresponding research questions and methods. It is worth noting that the studies were designed progressively, instead of being planned simultaneously at the beginning of my PhD. In other words, the latter studies were designed based on the results of the former ones. In this sense, when I explain these studies in the next section, I will inevitably mention some parts of the results to introduce the rationales for the following studies, but I will not go into details about the results as this is not the aim of the current chapter.

3.3 Overview of the studies

To start with, I wanted to explore my research questions in general, that was, I intended to probe into all my three questions in the first study. I wanted to (1) explore the social identity processes in an East Asian culture, (2) track the trajectory of shared identity, and (3) identify some factors that may influence shared identity. To meet these demands, I adopted an ethnographical approach in the first study. The ethnographic approach holds a pragmatic perspective to the field, where everything could be research data, based on which theories could be generated or modified (e.g., Fine & Elsbach, 2000). The ethnographic approach allowed me to collect as various types of data as possible, as long as the data was related to the research topic and/or could enhance understanding of the research questions. One important prerequisite for a successful ethnography is the choice of a proper research site. In the end, I chose Yingxiu as my research site. It was chosen for the following considerations.

Firstly, in order to address the first question concerning cultural difference, I needed to choose an emergency or disaster that happened in an East Asian culture. The best possible culture should be the Chinese culture, where I came from and which I knew much about. Secondly, Yingxiu was severely damaged in the catastrophic 2008

Wenchuan earthquake, where half of the population was wiped out and almost all buildings were destroyed. I wanted to know whether the social identity processes still apply in such an extreme setting, where there was imminent and consistent danger of death. Thirdly, since Yingxiu was located at the center of the earthquake, its recovery process had involved extra attention from the government and outside forces such as volunteers and donators, who saw it as a symbol of the disaster, and also a symbol of the rescue and recovery processes. In this sense, things happened in Yingxiu could be more complicated than other places, which could potentially help to reveal more factors that were relevant to the research topics. Fourthly, the earthquake was recent enough to be salient in memory but also remote enough to allow me to follow the trajectory of shared identity over the various phases from the immediate aftermath through the period of reconstruction to the present where the town has been rebuilt. All these factors made Yingxiu an ideal site for my research.

The field study took place in May 2017, including the commemoration day of the event on May 12. Participant observation, casual chat, archive search, and most importantly, semi-structured interviews were used to collect data. This study aimed to answer: (1) whether there was evidence of shared identity in Yingxiu, (2) how shared identity developed over time (e.g., when it started, how long it lasted, how it faded or transformed), (3) what factors might have influenced the shared identity processes?

While the first study has yielded some useful and inspiring results, showing that the social identity model was applicable in Yingxiu, and that shared identity had multiple subcategories, which were developed in different phases of the disaster, it is possible that these results were specific to that certain event (earthquake) in that certain context (the Chinese background). For example, it was possible that the mere severity of the earthquake accounted for the most part of shared identity, that people became united because they had to rely on each other to survive. There were also some other questions that needed to be addressed, one of which was that about pre-existing community. Since people in Yingxiu did not have much of community spirit, it was possible that the observed effects of shared identity were “magnified”, as shared identity was the primary social glue that connected the survivors. This has raised a question: would the social identity processes be influenced (e.g., less significant) if people were united before the disaster?

The second study was designed to address these issues. Overall, it was designed primarily for result triangulation – I wanted to know if the results found in the first study were applicable in different settings, which meant that the second study adopted a similar methodological approach as the first study, and that the main research questions (in terms of evidence of shared identity, the trajectory of it and the factors that may influence it) basically remained the same. The research site for the second study was a village in western Ireland which I called “Rivertown” (a pseudo name for anonymity; Yingxiu was not anonymized because it was the center of the 2008 earthquake, making it impossible to conceal its name), which was flooded in recent years (esp. in 2009, when it was flooded for the first time over several decades, where people were almost completely unexperienced and unprepared for it). Rivertown was chosen for the following reasons. Firstly, for a practicality reason, Rivertown was chosen because it was an English-speaking village so that it was easier for me to discuss the data with my supervisor and colleagues. Secondly, compared with the catastrophic earthquake, the flood in Rivertown was relatively mild, where there were no casualties and “only” 10 houses directly affected by it. Therefore, it was a good place to look at the social identity processes in a disaster that was much less severe. Thirdly, Rivertown was famous for its community spirit, which made it a perfect comparison to Yingxiu, where the relationships between the residents were either neutral or negative. Apart from these theoretical considerations that differed Rivertown from Yingxiu, there were also many similarities between the two places, eliminating as many confounds as possible, and therefore making them as comparable as possible. For example, Rivertown’s size was similar to that of Yingxiu, and they were both located nearby a big city. Neither of them had prior experience dealing with the disasters. Compared with the places nearby Rivertown and Yingxiu, both of them had a certain number of outsiders (in Yingxiu, they were outsider workers in town; in Rivertown, they were people who worked in the city but lived in Rivertown), which naturally created conceptually different groups. To sum, Rivertown was a perfect research location for my second study. The methodology of study 2 was similar to that in study 1, where an ethnographic approach was adopted. I visited Rivertown in May 2018 and collected data for about a month. The general research questions basically remained the same as those in study 1 since the aim of the present study was to explore those questions in a different setting, except that the East Asian component was no longer of research foci.

In carrying out fieldwork, it is always important to reflect on the influence of “positionality”, i.e., who the researcher is to the participants and who the participants are

to the researcher, during and after the fieldwork (see Palmberger & Gingrich, 2014). Different identities relating to race, gender, class, sexuality and other attributes could signify relational positions in society, and acknowledging positionality was vital both before and after the ethnography to empower the researcher with a vigilance over power positions and the consequences of it (Chacko, 2004). While carrying out these two field studies, I constantly reminded myself with the issue of positionality so that I could adapt my strategies to collect data. During the analyses of these studies, I also would reflect on how positionality could or had influenced the data. These issues will be thoroughly discussed in their corresponding chapters.

Both the field studies were subject to thematic analysis, where data coding and theme identifying were the main analytic procedures.

After completing the two field studies, I made a comparison between their results and identified four factors that could influence the strength of shared identity: severity of disaster, pre-existing community, observed unity, and time (how long it was from the disaster). I assumed that these factors may interact with each other, so I planned to test two sets of the factors at a time in experiments. Given the time limit of a PhD programme, I was not able to exhaust all combinations of these variables, therefore, I designed two experiments that contained two different sets of variables: severity & pre-existing community in one experiment and observed unity & time in another.

The overall model of these two experiments followed the social identity model of collective behaviours in emergencies and disasters, where shared identity was a mediator and helping behaviour was the outcome. The four variables served as independent variables (IVs) and each had two levels (e.g., for the severity variable, it had two levels: severe vs mild disaster). To be specific, in study 3, the hypothesized model was “severity – shared identity – helping behaviour”, where pre-existing unity moderated the mediation effect of shared identity. In study 4, the hypothesized model was “observed unity – shared identity – helping behaviour”, where time moderated this pathway. Therefore, the two experiments adopted a 2-by-2 moderated mediation design.

The manipulations of the IVs were made via videos. The videos also contained information about the disaster so as to set up the background. The disaster scenarios were made-up flooding events in the UK. There were several reasons why I chose flood as the disaster background: (1) since the hypotheses generated were partially drawn from the

results of the field study concerning a flood, using a flood scenario in the experiments would make sure that the results were not over-generalized (e.g., my hypotheses might not work in bombing events); (2) a flood was a better choice than an earthquake in a way that a flood could range from very mild (e.g., only excess water on the road) to very severe (e.g., flood water entering houses and ruined them), whereas an earthquake might be more difficult to manipulate, if it had caused damage (if it did not cause any damage, it should not be considered as an emergency anyway); (3) potential participants of the experiments were expected to be mostly students of University of St Andrews, who would be more familiar with floods, which happened once in a while in the UK; in this sense, it would be easier for them to imagine a flood during the simulation. The experiment data was tested primarily by the *Process* macro (Hayes, 2016), where the moderated mediation was tested via bootstrapping method.

At the end of this section, I would like to address the ethical issues of the present studies. All of the four studies have acquired the ethical approval from the University Ethics Committee in St Andrews. The ethical application for each study was submitted separately. The main ethical concerns were that of the recall of traumatic experiences (in the experiments, it would be the imagination of disasters). Generally speaking, the strategy to deal with this was to avoid these traumatic experiences. For example, since my research aim was to investigate group dynamics, my questions were mainly focused on what people did in relation with the others, instead of earthquake induced damages and casualties. If, however, participants did recall uncomfortable memories, they were told before the research that they had the right to withdraw the study at any time without giving any reasons. In the worst case where the participant felt traumatized during the research, they would be transferred to accessible mental health facilities, such as local psychiatry hospitals and university mental health center. Detailed ethical concerns and strategies to deal with them will be addressed in their corresponding chapters.

4 STUDY 1: AN EARTHQUAKE IN CHINA

4.1 Overview of the present study

The present study sought to explore my research questions in general. To be specific, the questions included: (1) was evidence of shared identity in Yingxiu? (2) what were the antecedents and consequences of shared identity? (3) how did shared identity develop over time (e.g., when it started, how long it lasted, how it faded or transformed)? (4) were there multiple groups and were they united or divided? (5) who or which groups had higher levels of unity and who or which groups had less of it? (6) were there any unexpected themes that came out to be related to the general research questions?

As explained in the previous chapter, the present study adopted an ethnographic approach. Data collection was completed during a month-long field work. The primary ethical concern for the present study was that participants would be recalling memories of the earthquake, which could potentially traumatize them. Several steps were taken to minimize these negative effects: (1) participants were required to give full consent before they participate, where they would know that they had the right to refuse to answer any questions and withdraw from the study without giving any explanations; (2) the research questions would not be focused on personal earthquake experience, and damage and casualties of the disaster; during the interviews, I kept making sure that the conversations did not divert into those topics; (3) in the worst case where the participants felt traumatized and needed professional assistance, I would contact local psychiatry hospitals (either in Dujiangyan or Chengdu) and transfer the participants to these institutes.

In the following sections, I will first introduce the background information about the 2008 Wenchuan Earthquake and how it affected Yingxiu. Then I will explain the research procedure of the study, followed by a summary of the data I have collected. After that, I will proceed to analyse the data, and give a discussion at the end.

4.2 The catastrophic 2008 Wenchuan Earthquake

The earthquake happened at 2:28pm on May 12, 2008 in Wenchuan county, Sichuan province in China. The earthquake centre was around Yingxiu town. The magnitude of the earthquake reached 8.2Ms, and it had affected over 100,000 square kilometres of land, among which there were more than 200 counties and cities involved. By September 18, 2008, the number of casualties was 69,227, and there were also 374,643 people injured and 17,923 people missing. It was the most destructive earthquake ever since China's establishment in 1949. The earthquake had caused a direct economic loss of 845 billion Chinese Yuan (roughly 100 billion pounds). Over 70% percent of overall loss was caused by the destruction of houses, roads, bridges, and other infrastructures. On 18 June 2008, the central government has established the reconstruction and recovery plan, requiring each unaffected province/big city to assist one severely damaged county/city. Nineteen provinces and cities joined the program, and they were required to spend no less than 1% of their finance to help rebuilding their designated county/city for three years. In January 10, 2012, Jufeng Jiang, the governor of Sichuan province claimed that the reconstruction had completed, as 99% of the 29,700 reconstruction projects were completed.

Yingxiu is located in Wenchuan county, some 78km from Chengdu, the capital of Sichuan province, also one of the biggest cities in China (see Figure 4.1). Dujiangyan is the nearest city to Yingxiu, therefore, it was the first stop for evacuation and temporary settlement for the survivors of Yingxiu.

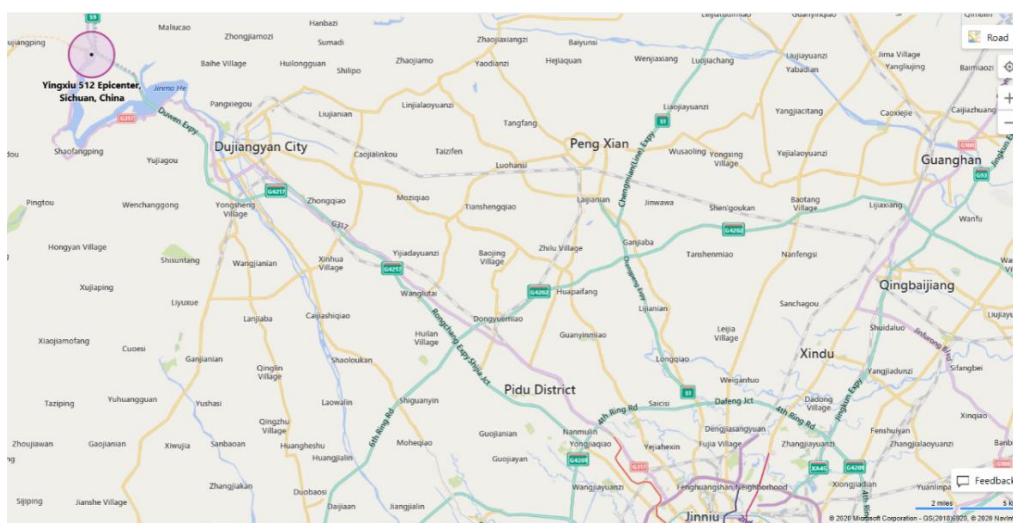


Figure 4.1 Map of Yingxiu, Dujiangyan, and Chengdu (the biggest city on the right bottom side with several ring roads), retrieved from Bing Maps

Before the earthquake, the population in Yingxiu was about 12,000 (the number of the locals was about 7,800), however, the earthquake had killed 6,566 people. Before the earthquake, Yingxiu used to depend on hydroelectric plants and agriculture. After the earthquake, it was re-developed as a tourist town, so people mainly rely on tourism for living now. The following picture shows what Yingxiu looked like before the earthquake (see Figure 4.2).



Figure 4.2 Aerial photo of Yingxiu before the earthquake. Online resource

The photo has clearly shown that Yingxiu was a small town located in a valley. It was surrounded by mountains and it was built along the riverbank. Most of its constructions were buildings of about six to ten floors. The following picture was taken in a couple of days after the earthquake, showing how severely damaged Yingxiu was (see Figure 4.3).

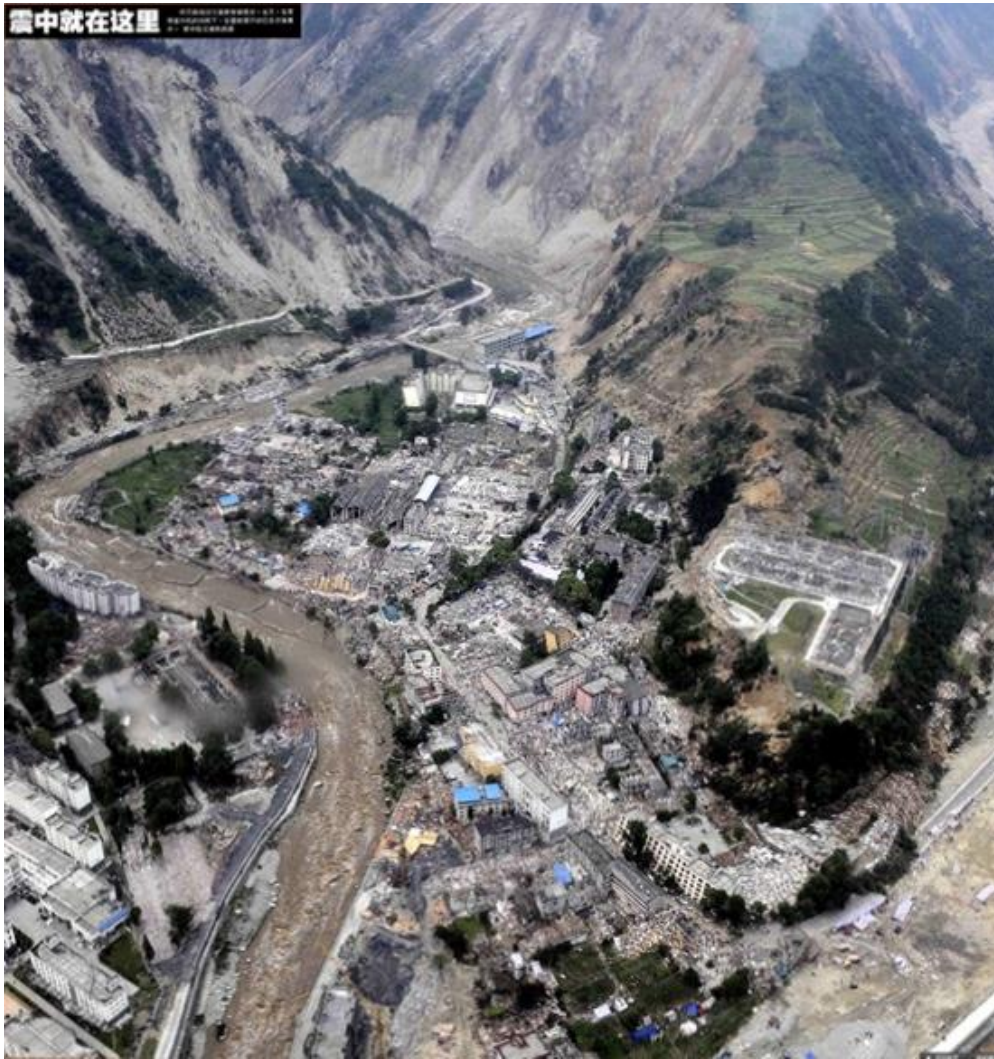


Figure 4.3 Aerial photo of Yingxiu, taken on 14 May 2008. Online resource

It can be seen that most of the buildings in Yingxiu had fallen down. Those that did not fall were severely damaged as well and were no longer useful. Almost all of the buildings were torn down and replaced by quakeproof houses during the reconstruction. This is what Yingxiu looks like now (see Figure 4.4).



Figure 4.4 Photo of Yingxiu, taken by me in May 2017

Detailed events and stories that happened in Yingxiu during and after the earthquake will be documented in the analysis section.

4.3 Research procedure and data summary

The field work started on May 1, 2017, and it ended on May 30. I stayed in a hostel owned by a local couple, who survived the disaster. They lost their granddaughter in the earthquake. “Luckily”, she was the only family member who died in the disaster. Their houses were destroyed as well, like most other people in Yingxiu. The landlord was kind enough to show me around Yingxiu in the first few days. At the same time, I kept trying to familiarize myself with the town and the locals by walking around, buying things (mostly snacks, so I could revisit the shops), eating in different restaurants, and having a haircut, etc. My goal was to make the local residents notice my existence. After a few days, people would talk to me voluntarily. They would either ask me what I was doing as they had never seen any tourist staying for longer than a day, or they would engage in a small chat with me as some of them already knew that I was doing a social psychology study in town. I would take notes of the chats and my observations, if they were relevant to my research questions. The notes were taken when I was alone. This was because writing things down immediately when something interesting came up might make

people uncomfortable and discourage their willingness to talk to me. After a couple of weeks, when I felt that people were comfortable with me being around – for example, when I entered a restaurant, the owner would ask me “the usual?” – I began to ask people if they were interested in my research and would like me to have an interview with them (see Appendix 1 for the guidelines for the interviews). I asked people who already knew me as well as complete strangers on the street to avoid potential biases (e.g., it was possible that people who knew me quickly were more open and extraneous, so that they were easier to make friends with a stranger, i.e., me) from participants. If someone was happy to participate, the interview would take place wherever the participant preferred, and it was usually carried out in their shops or houses. After the interview, I would ask participants if they were happy to introduce one more person who would be interested in my research. This snowballing technique could help to accelerate participant recruitment. The participant was reimbursed with 50 Yuan (roughly £5.5), however, most of them did not take the money because they thought it was just a small favor to talk to me. On the other hand, they would thank me in return for caring about them and Yingxiu. Apart from interviews, I also asked people if they had any materials that I could use, such as photos, videos, letters, and books. In general, most people could not provide any of these things as they did not have any equipment to record things (e.g., smart phones were just developed around 2008 and they were not widely used then). I terminated the study when I felt that the data had reached saturation (Mason, 2010), where I found that the patterns were clear enough, my research questions were satisfyingly answered, and there was no more new knowledge from participants’ accounts.

In the end, I have conducted 21 interviews (1,071 minutes in total, averagely 51 minutes per interview), wrote 20,692 words of field notes, got an anecdotes book with very limited publication, written by a soldier who served in Yingxiu during the reconstruction period, and some photos of Yingxiu and the survivors, taken days or weeks after the earthquake and taken by some local residents, volunteers, and journalists. The interviewees’ basic information is listed below (see Table 4.1).

Table 4.1 Basic information of the interviewees

Number	Age	Gender	Whereabout during the earthquake*	Loss of immediate family member(s)
P1	30-40	F (Female)	Y (Yingxiu)	Y (Yes)
P2	30-40	M (Male)	O (Other places)	N (No)
P3	60-70	M	Y	Y
P4	30-40	F	Y	Y
P5**	30-40	M&F	Y	Y
P6	30-40	F	O	N
P7	40-50	M	Y	Y
P8	60-70	M	Y	Y
P9	30-40	F	Y	Y
P10	30-40	F	O	N
P11	30-40	F	Y	N
P12	30-40	M	Y	N
P13	40-50	F	Y	Y
P14	40-50	M	Y	N
P15	20-30	M	O	N
P16	30-40	M	Y	Y
P17	30-40	F	Y	Y
P18	40-50	M	Y	N
P19	30-40	F	O	N
P20	30-40	F	Y	Y
P21	30-40	F	Y	Y

* While some participants were not in Yingxiu during the earthquake (for example, some of them were staying with their parents in nearby cities or villages), they all had experienced the earthquake and were all involved in the recovery process in Yingxiu

**P5 actually includes two interviewees, a married couple. I was intended to interview the wife, but the husband heard our conversation and could not help expressing some of his ideas, so I went on to interview the two of them.

In the analysis, participants will be coded in a way of “number-estimated age-gender”. For example, the first participant will be coded as “P1-30-F”.

4.4 Analytic procedure

Thematic analysis (Braun & Clarke, 2006) was used to the data. The interviews were first fully transcribed (in Chinese). Then the field notes, relevant chapters of the book, and the interview transcriptions were coded thematically. The codes were mostly theoretical driven (e.g., “shared identity”, one of the key concepts of the social identity model), however, unexpected themes that related to the research questions were also coded (e.g., the conflicts between parents and the local authorities). In line with previous work (Drury et al., 2009b), shared identity was operationalized as feelings of unity or togetherness. Solidary behaviour was operationalized as behaviours that were intended to support other people or the group, and it incorporated various contents, such as rescuing, sharing food, and lending a hand when needed.

In Chinese, participants often referred to shared identity as “团结” (translated as “unity” or “solidarity”) or “凝聚力”(translated as “cohesiveness”). “团结” means “people working together to achieve a common goal”, and it is often followed by adjunct words such as “一起” (being together) and “一心” (sharing one spirit). The word “凝聚力” originally means the cohesive force between particles. In social contexts, it is usually used as a metaphor to describe a group of people who are so united that they could be seen as one unit. Given both of these two words represent a sense of shared identity, therefore, whenever participants talked about “团结” (unity) or “凝聚力” (cohesiveness), they were considered referring to shared identity in the following analysis. However, there could be ambiguity between the cognitive/affective component of shared identity and the behavioural component of it because sometimes participants did not discern the

difference between these two concepts and used “unity” or “being united” to refer to them both. Therefore, I will make the distinctions based on the context in the following analysis.

The size of each coded text varied from a single sentence to a multi-sentence chunk, according to the rule of thumb: assign the single most appropriate code in the scheme (Miles & Huberman, 1994, p. 65). After the coding, when discussing the data with supervisor and colleagues, relevant texts would be translated into English; when the texts were finalized to be used in the thesis, they went through a back-translation technique (Brislin, 1970) for accuracy. These English texts were translated back into Chinese by a PhD student who was bilingual in Chinese and English, and they were then compared with the original transcriptions. Changes were made until we both agreed with the translations. Sometimes, however, a precise translation of the sentences or words may end up making no sense in English, as participants often omitted some words in oral language, which still made sense in Chinese. In this case, in the extracts below, I will add some words in brackets to create idiomatic English.

One important point about the analysis was that my data included interviews, field notes, a book and some photos. The interviews were treated as the primary data source for analysis because they were retrieved directly from the participants, while the field notes were treated as a supplement to the analysis because it was not as rich and informative as the interviews. This was because it had been 9 years after the earthquake and people’s life was not directly influenced by the disaster anymore. People would hardly talk about the earthquake unless I specifically asked about it, therefore, it was difficult to gather valuable data that was relevant to my research questions. As a consequence, the interviews became the primary source of data. In the following analysis, I will attach a pair of brackets writing “field note” to a piece of evidence if it was retrieved from my field notes.

4.5 Analysis

I will start this section with a timeline (derived from the data) of significant events that happened in Yingxiu after the earthquake. Then, I will give a summary of the key themes. After that, I will give a detailed analysis of the themes chronologically, in three separate phases, marked by different post-earthquake recovery phases. In this part of analysis, I will also specify multiple subcategories of shared identity which emerged progressively over time.

Before I proceed with the analysis of the data, I would like to briefly introduce the positionality issues I came across in this study. From my stance, I was prepared to be treated as an outsider, so I did not try to “blend in”. There were two reasons why I kept my role as an outsider: (1) Yingxiu was relatively small and people more or less knew each other, so I was easily recognized as an outsider; and (2) I came from the north of China while Yingxiu was in the southwest of China, and people in these two areas had very different accents so the villagers would know that I was not even from their province immediately after I spoke. Apart from being an outsider, I also played a role as a researcher. This was inevitable as the news spread very fast – after a couple of days, when I engaged in casual chats with strangers, people would already say “so you are the researcher, uh?” From the participants’ point of view, I might somehow have certain power over them. Although I was not very old then (27 years old) and most of my participants were older than me, many of them looked up to me and treated me as an important person. This was caused by (1) the civilians in the village did not have very good education background (middle high school level, averagely), and (2) in Chinese culture, people admire those who were well educated and would even call them “teacher” or “mentor” to show their respect. Some participants were aware that I was an academic while some other people thought I was more like a journalist since I was interviewing people. In whichever the case, most people believed that I was there to help them, either by writing stories about Yingxiu or by simply consuming as a tourist for a month.

4.5.1 Timeline

On May 12, 2008, the earthquake happened at 2:28pm, followed by a series of aftershocks. During the first few nights, the participants lived in temporary tarpaulin

tents (see Figure 4.5).



Figure 4.5 Photo of the tarpaulin tent, provided by a local resident

On May 14, 2008, the first rescue team arrived in Yingxiu (see Figure 4.6).



Figure 4.6 Photo of the first rescue team arrived in Yingxiu, provided by a local resident

On May 15, 2008, injured survivors were transferred to Dujiangyan by boat (see Figure 4.7). At the same time, remaining residents were asked to leave Yingxiu as soon as they could. However, a lot of residents returned to Yingxiu after a few days.



Figure 4.7 Photo of the survivors were transferred out of town by boat, provided by a local resident

By May 28, 2008, people who worked in national institutes, such as the local government and the post office, were asked to return to Yingxiu to resume their work.

In June 2008, prefabricated houses were built for temporary living (see Figure 4.8).



Figure 4.8 Photo of the prefabricated houses, provided by a local resident

In May 2009, residents gradually moved out of Yingxiu because of the reconstruction.

On August 14, 2010, a mud-rock flow hit Yingxiu and killed some construction workers, which slowed down the reconstruction progress.

In 2011, people gradually moved back to Yingxiu. Yingxiu was planned as an earthquake themed tourist attraction (see Figure 4.9).



Figure 4.9 Street view of Yingxiu, photo taken by me in May 2017

4.5.2 A summary of the key themes

Table 4.2 has listed the main themes with their numbers of frequencies and entries, respectively. This summary was based on the interviews only as it was easier to interpret the frequencies when the data was from a single source. “Frequency” indicates how many participants contributed to these themes (there were 21 interviewees in total).

Table 4.2 List of key themes

Themes	Frequency	Entries
Being united	20	42
Helping others	20	77
Food and water distribution	19	64
Fear and anxiety	18	33
Government policies	15	93

Rescue moves of the government	15	30
Looking for family members	15	45
Blaming the local government	14	45
Rescuing others	12	47
Selfishness	11	26
Rescuing family members	10	25
Interchangeability	10	14
Orderliness	10	13
Gratitude for the central government	10	14
Helping family members	7	11

Almost all participants (20) gave accounts of people being united and helping each other. Helping others (20) and rescuing others (12) had more frequencies and entries than helping family members (7) and rescuing family members (10). Half of the participants (11) talked about examples of selfishness, however, they often accentuated that it was sporadic cases. Fear and anxiety (19) were the theme that seems closest to “panic”, but it referred to individual emotions instead of collective disorganization. In fact, almost half of the participants (10) said that there was orderliness during the earthquake. Some participants (10) also mentioned the concept of interchangeability, which in their own words, meant that “there was no differentiation between you and me”, and that “mine is yours and yours is mine” (in terms of food, water, and commodities, etc.). There were also several themes about the government. Many participants (15) talked about how they were rescued by the government, and how much they (10) thanked the central government. However, there were also a lot of participants (14) blaming the local government.

This table was aimed to map out the results in general. I did not intend to expand my analysis at this stage to avoid repetition, because I will refer to these themes in different sections in the following analysis. It is also worth noting that the frequencies only reflected the overall image of the data and they should not be treated as strict quantitative data. For example, 20 participants gave accounts of unity does not mean 95% of people

were united, but it did give me the confidence to say that unity was a widely reported and accepted notion among the participants.

4.5.3 Analysis in three phases

The analysis will expand chronologically. Evidence of the shared identity processes, such as who were involved in it, how it emerged, developed, and disappeared, will be explained in three post-earthquake phases. The three phases were created according to the different recovery stages, and they were also closely linked with government policies. The creation of the three phases and the examples given in the next section were drawn from both the interviews and my field notes.

4.5.3.1 Introduction of the three phases

The first phase was the emergent phase, which lasted about a week after the initial strikes of the earthquake. In the emergent stage, people's primary goals were keeping themselves alive and rescuing others. Due to difficulty of transportation, it was not until two days later when the first rescue team arrived in town. Therefore, Yingxiu remained isolated and lack of professional rescue for two days after the earthquake. Survivors began to be transferred out of the town from the fourth day after the earthquake, and most survivors who were willing to leave were out of the town by the seventh day after the earthquake. The survivors were transferred to Dujiangyan, a near-by city as illustrated in Figure 2, where they could turn to government/charity settlement, or seeking shelter from their relatives. This marked the end of the emergent stage (field note, 10 May).

The second phase was the initial recovery phase, where people's main objective was to recover from the disaster and restart their life. Although a lot of the survivors were transferred to Dujiangyan in the first phase, most of them returned to Yingxiu very quickly, in a few days' time. They came back to clear the rubbles, bury the dead, and dig valuables. They lived in prefabricated houses with very limited personal space. Governmental functions and various business began to resume in those temporary shelters. The duration of the second phase was about a year. During this time, people who originally lived in the periphery parts of the town, such as the villages in the mountains, were the first group of people who began to live in permanent houses, in about a year's time. Their houses were built quickly because the houses were scattered in the mountains and needed little general planning. In contrast, people who lived in the central part of the town had to move out during the reconstruction, because Yingxiu had very limited place

so it was impossible to settle the survivors during reconstruction. These people began to move out roughly one year after the earthquake, and they lived separately, either in their relatives' houses, or in rented houses. Since people were no longer living in the same community, this was considered the end of the second phase (field note, 13 May).

The third phase was the final recovering stage, which began after the temporarily resettled people moved back to Yingxiu in 2010, approximately two years after the earthquake. In this stage, people's main objective was to restart a new life. People lived in new houses, with new neighbors, and had to think of new ways to live, because almost all previous factories were removed and Yingxiu was planned as a tourism town. It is difficult to specify an ending point of this stage, because people's recovery process varied from case to case. For example, there were cases where some people were still mourning their lost families (especially if they had lost their children) and did not work until 2017 when the research was carried out. In contrast, people who did not lose their children, or those who lost their children but were able to have new babies, recovered much more quickly. Therefore, it is difficult to fix an ending point for this recovery stage (field note, 14 May).

In the following part, the shared identity processes will be analyzed in the framework of the three phases.

4.5.3.2 The first phase

4.5.3.2.1 Evidence of the shared identity phenomenon

Extract 1

“Many of those interviews on TV were fake. They were probably told to say that. I can and I dare to tell you that, when they said ‘ah when the earthquake happened, I was thinking about the safety of my family, or what happened to my wife’ – no one thought that much, okay? All we had in mind was to survive. It was not until we managed to escape and the initial shocks stopped when we began to think of our family. It was not until then when we began to worry about their safety. This is human instinct.” (P12-30-M)

In his detailed description of “human instinct”, this participant revealed what he felt after the earthquake. Although not all participants mentioned their strong instinct to survive, almost all participants mentioned that the first thing they did after the initial shocks of the earthquake was to look for their family. It seemed that nothing else mattered

apart from their own life and their family's safety during that emergent period. While people's desire to look for their family was strong, this does not mean that people were grouped in units of family and that they did not care about each other. Rather, accounts of unity and mutual support among survivors were widespread. In fact, almost all participants reported shared identity during the disaster. Some people even began to talk about it without being prompted:

Extract 2

Researcher (R): After the disaster, what did people...

Participant (P): (People) were united at that time. Very united. (P15-20-M)

The participant did not even let me finish my question, seeming to assume that the I expected to hear "unity" after "people". In another word, being united seemed to be the most accessible concept when participants were asked to think about the crowd. This pattern was common among participants – whenever they were asked about the relationship between survivors, most of them would come up with unity without hesitation.

In the list of key themes, 20 interviewees provided affirmative accounts of unity, showing how widely-accepted this concept was. The only person who did not think there was unity (he shook his head when I asked if there was unity among survivors) did not seem to reject the concept of help:

Extract 3

R: You seemed to have helped a lot of people.

P: Well, yes. They, they were in trouble, so you had to help a bit. There was no way you could ignore it. Some people were injured so (I) would help to carry them or get them medicine. (P3-60-M)

The participant said he "had to help", seemingly to imply that there was a norm to help. In his case, it seemed to be the norm of "the more abled should help the weak". I spent relatively more time with this participant because he was my landlord. This person was very independent and capable of many skills. Even in the first night of the earthquake, when almost everyone was gathered in a collective temporary shelter, he set up his own

shelter elsewhere and settled his family there (field note, 4 May). It was possible that he usually acted alone or with his family so that he did not feel attached to the group. Despite his lack of sense of unity, this participant had shown that the behavioural component of the social identity processes still applied. Apart from this “deviant” case, almost all the other participants said they felt united during the disaster.

There were cases where some survivors did not care about other people and acted selfishly. However, these were just scattered cases in the large background of unity:

Extract 4

R: Was there anyone selfish?

P: Definitely.

R: Can you give me some examples?

P: Just being selfish. They didn't go to rescue others and help others. Selfish, you know.

R: What were they doing, then?

P: I don't know.

R: They just stayed where they were and didn't help.

P: Yes. Few people were like that.

R: Few. So, most people helped each other.

P: Yes. Because everyone was influenced by the disaster, weren't they? (P20-30-F)

From this participant's view, selfishness was defined as the opposite of unity (in this case, the behavioural component of unity) – not rescuing or helping others. However, before being asked about the scale of selfishness, the participant voluntarily told the researcher that such cases were rare (“**Few** people were like that”). This pattern was typical among participants: when asked about selfishness, they would come up with some examples; however, after giving these examples, they often emphasized that it was not common. Therefore, it seemed while there were cases of selfishness, it was not a typical phenomenon.

4.5.3.2.2 *A general sense of shared identity*

In the first phase, there was not any subtypes of shared identity. What most people reported was an overall and abstract sense of unity. Participants often expressed it in such a manner: “*everyone was united at that time*” (e.g., P1, P6, P9). When participants said “everyone”, they did not mean every single person in town. Rather, they were emphasizing the widespreadness of unity – as explained above, there were selfish behaviours, however, those cases were scarce, not enough to change the general sense of shared identity. Moreover, at this stage, participants did not try to create different groups when they talked about unity. By saying “everyone”, they implied that the survivors comprised a single group, and that there were no outgroups. The disaster itself was the “outgroup”. In contrast, in the second and third phases, participants would clearly define the groups as “we civilians” or “they the local authorities” (see the analysis in the relevant sections).

4.5.3.2.3 *The antecedents and consequences of the shared identity processes*

At the end of the last quote (extract 4), the participant had briefly pointed out the association between common fate and mutual help. She said everyone helping each other was “because everyone was influenced by the disaster”, implying that common fate led to helping behaviour. This account of association between common fate and helping was widely reported, and it often arose spontaneously, and it could be more clearly illustrated in the following extract. Before the quoted text, the participant was talking about people rescuing students in the primary school. She was saying that not only did she helped to rescue her nephew, she also helped many other people. Then she said:

Extract 5

P: Such kind of selflessness was universal at that time. I could say that everyone did the same thing, spontaneously, without being mobilised. (This was) because the disaster was not aimed at one or two person – it has affected everyone.

R: Everyone was...

P: It was mutual. Yeah. (People) helped each other to rescue others. It was like, if you shouted for help, I would go to help you immediately. I could put aside my own business to help you. (P9-30-F)

In this extract, the participant referred to helping unrelated others as “selflessness” and she confidently believed that it was widespread and spontaneous. She accredited such selflessness to the fact that everyone was affected by the disaster, which, in social psychological terms, meant common fate. According to this participant, common fate facilitated the widespread solidarity, and its effect was so strong that she would even prioritize helping others over her own business.

Instead of implying that common fate serves as the antecedent of the social identity processes, some participants directly linked the disaster with sense of shared identity:

Extract 6

P: I think, you see, whenever there was a disaster, there was cohesiveness. Especially those things that would normally, like the taxi driver; there were things that I would not normally expect, (like) the taxi driver, giving me a lift for free. There were also cases where people who owned cars would – if someone wanted to look for their children – they would give him/her a lift for free, to (help them) look for their children. In normal life, it would never happen – I stop a car, (tell the driver) where I want to go, and the driver would take me for free? It is (impossible). I never expected it at all. It was really...

R: People helped each other.

P: Yes, yes, yes. Indeed. After all, it was such a huge disaster. (P10-30-F)

This participant pointed out the connection between shared identity and disaster at the beginning of the extract. She seemed to believe that there was a causal relationship between these two variables: disaster led to cohesiveness (“**whenever there was a disaster, there was cohesiveness**”). She then explained cohesiveness by giving an example of mutual help among strangers, and she thought such help was impossible “in normal life”, which bolstered her point that it was the “abnormal” disaster situation that led to cohesiveness. Then, the participant tried to rationalize such behaviour by saying “*after all, it was such a huge disaster*”, implying that there was a link between severity (“huge”) of the disaster and solidarity.

In this extract, the participant did not try to discern the differences between a sense of unity and its behavioural components, as she mentioned “cohesiveness” (considered as a sense of unity, as explained in the analytic procedure section) at the beginning, but

used examples of mutual help to refer to it. This was not a single case. In fact, a lot of participants used examples of mutual help to describe unity. For example:

Extract 7

R: After the disaster, what did people...

P: (People) were united at that time. Very united.

R: What did unity mean?

P: It was, well, for example, people helped each other, such as the elder and the children. You know. (P15-20-M)

This is an extended quote of extract 2. After spontaneously saying that there was unity among people, the participant explained that unity meant mutual help. This pattern of describing unity with mutual help was widespread among participants (field note, 20 May). A possible explanation for this phenomenon could be that participants simply did not have these two concepts in mind – they might just use “unity” to represent the feeling of unity and mutual help altogether. Even if this was the fact, it undoubtedly showed that unity and mutual help were strongly connected with each other – although this made it difficult to determine the causal relationship between shared identity and mutual help, as suggested by the social identity model.

Linguistically, participants commonly use the phrase “mutual help” to refer to all kinds of helping behaviours, however, the content of help may vary in different contexts and phases, and it might sometimes go beyond the concept of help. At the emergent stage of the disaster, mutual help was most of the time focused on rescue:

Extract 8

R: What did your husband do after he saved his parents?

P: He went to rescue people in our village. He rescued four people, including my sisters-in-law, who were buried in the ruins. My brother was a local government leader, and he asked whoever survived in our family to rescue others, and my husband went out to rescue six more people. I used to complain about this. I said, “you had saved other families’ kids, but why didn’t you try to rescue our kids? We had so many kids in the (extended) family – others’ kids were out alive – but none of ours were out alive!” He

said my brother told him to save those in our production team, so he did it. He had to do it. (He) definitely needed to save people here (in the production team). After a long time, say a few years later, he still said he felt regretful for not looking for the kids in our family. I would comfort him, saying that it was alright. “No matter whom you tried to save, the most important thing was that they were saved. They didn’t have to be our own family members.”

R: That was really selfless...

P: There were so many cases of it. So many of it. Especially in the primary school. (P9-30-F)

Note: when she said “our kids”, she meant the children in the extended family instead of her own children, who were not in the village during the disaster.

There are two kinds of rescue stories in this extract. The first one is rescuing family members, as the participant’s husband did in the first place. This was the most typical reaction of the survivors: looking for and rescuing family members. The second one is rescuing non-family members. The participant’s husband tried to save people in the vicinity (people in the same production team usually lived close to one another) because his brother-in-law told him to, and he seemed to accept the arrangement without questioning it at that time (he “definitely” needed to do it). Although her husband regretted for not saving some children in the family, the participant, who used to complain about it, seemed to have accepted his behaviour and thought what he did was correct. Rescuing unknown people was not rare, but normally rescuing family members was the priority, as another participant put it, when she talked about looking for and rescuing family members immediately after the earthquake:

Extract 9

P: “Most people were like that. But if you ask me whether there were people rescuing others, the answer is yes. Yes. There were a lot of them. Yes. But the most important thing was to look for one’s own family members.” (P1-30-F)

This participant has given a good summary of the actions of the survivors in the emergent phase, that was, rescue family first, then rescue the others. Almost every

participant had mentioned mutual rescue and there was not a single account negating this collective behavioural pattern (field note, 23 May).

Apart from rescuing others, mutual help also included sharing, such as sharing food and commodities.

Extract 10

P: We were really united. For example – this was my own experience – during the emergent period, if I got some food from others, even if I only got very little food, so little that it I could only share a small portion of it, I would share it with my neighbours. If it was a pumpkin, I would cut it into pieces and share it. There were also sweet potatoes and corns – as long as I had any, I would share them with my neighbours... whenever we had relatives coming from Dujiangyan and bringing food to us, we would share the food, no matter how much we had.

R: That was really warm. People were connected to each other.

P: Exactly. That was because we were all helpless after the earthquake, and neither of us knew what to do. (P9-30-F)

The participant gave an example of sharing to illustrate unity (“we were very united”), indicating that sharing behaviour was part of the concept of unity. In this case, sharing behaviour was more like an emotional support than an instrumental one, because it was not those who had more food would share it with those who had less, rather, food was “exchanged” between neighbours. The participant explained such behaviour as a result of a shared sense of helplessness – they were “all helpless” and “neither” of them knew what to do. In another word, they shared the common fate of being frustrated by the disaster, and this in turn caused the unity phenomenon, whether it was referred to as a general sense of unity, or an act of sharing.

To summarize, in this section, I have shown that common fate and exposure to disaster (and possibly severity of disaster) seemed to be the antecedents of the social identity processes. Since the participants normally did not discern the feeling of unity (shared identity) and the behavioural components of it (mutual help), it was difficult to conclude that mutual help was the consequence, like what previous literature suggested.

However, this lack of differentiation between these two concepts at least implied that unity and mutual help were strongly connected or intertwined with each other.

4.5.3.2.4 Civilians' relationship with the local authorities

As explained earlier, in the first phase, there were no outgroups, and everyone seemed to belong in the same group under general shared identity. There were no accounts of division or intergroup conflicts. However, in later stages, the civilians and the local authorities became separated. Therefore, it is important to look at the relationship between the civilians and the local authorities at this stage because it contributes to our understanding of the development of the relationship between these two groups, and hence the development of shared identity processes. There was evidence that, in the first phase, the relationship between the civilians and the local authorities was good:

Extract 11

P: After the earthquake, the village cadres did try to organize (things).

R: Did you think they organized things properly at that time?

P: It was acceptable, acceptable, acceptable, acceptable. For example, they sent people to watch the quake lakes, as I told you before. Yeah, there were people specially arranged to do it. We stayed up here, and it was raining. There were a lot of injured people, whose legs and heads were injured. They were all there. Then there were three young men starting a fire somewhere below the tarpaulin tents and the smoke floated up. The smoke irritated the injured, so an official forbid them to make a fire anymore, and he went over and stepped on the fire to extinguish it. (He said) "we have injured people up there, what if they can't breathe smoothly?" Just like that. They forbid making a fire. (P16-30-M)

This participant seemed to be very content with how the local government officials behaved by repeating "acceptable" four times. In Chinese context, "acceptable" is not a strong expression of content or satisfaction, and it means only just above being "unacceptable". In this sense, it was plausible to deduce that this participant did not expect too much from the local government. In another word, he might have expected the local government to disappoint him, in terms of handling things immediately after the earthquake. Therefore, when he recalled that the local government actually did not function badly, he found it surprisingly satisfying and then uttered "acceptable" four

times. The participant then gave an example of the local government official stopping some young people from making a fire because the smoke might irritate the injured. The official used the word “we” to indicate his membership within the group, and by doing so, he sent a message to the civilians that the authorities were in this together with the civilians.

It could be argued that using “we” to imply and strengthen the notion of one united group was a manipulative strategy from a sophisticated government official. However, the data has shown that, like this participant, most people thought that the local government did well in the emergent phase (field note, 18 May) – or from an opposite point of view, there was no account of people blaming the local government in the first phase, while in the second and third phases, there were widespread complaints against the local authorities. During this phase, even though the civilians did not specifically say that they were united with the authorities, they did not try to exclude the authorities from a general sense of shared identity, either. It was not until the second stage that the participants began to report clear division between the civilians and the authorities, and they also began to use more precise descriptions to clarify the group boundary by using “we parents”, “we civilians”, and “they the local authorities”.

To conclude, in the first phase, people’s major concern was their families’ and their own safety. Meanwhile, there was also abundant evidence of the social identity phenomenon. Common fate seemed to have led to the shared identity processes, which from the participants’ point of view, included both the sense of unity and mutual help. The civilians and the local authorities seemed to be united at this stage, and no cleavage between them was reported.

4.5.3.3 The second phase

In the second phase, more subtypes of shared identity emerged, and they often co-existed with each other. These subtypes of shared identity had their own antecedents and consequences. The most significant feature of group dynamics at this stage was the division between the civilians and the local authorities, which contributed to these variations of shared identity.

4.5.3.3.1 The beginning of the division between the civilians and the local authorities

The division seemed to be caused by the transition of roles. In the first phase, both the civilians and the local authorities were victims of the earthquake, and both focused on

survival and rescue, therefore, they were united as one group. However, in the second stage, although reconstructing and recovering seemed to be an obvious common goal among the survivors, the civilians did not think the local authorities shared the same goal with them:

Extract 12

P: At the beginning of the earthquake, the local government was good. After that, during the reconstruction, the earthquake, you know, after that, those government officials had changed, damn it.

R: You mean they were good at the beginning, in terms of helping people or rescue...

P: Yep. After that, they changed. Damn it. We civilians had lost everything, but we had to pay for our (new) houses! What do you think? We fucking needed to pay about forty or fifty thousand yuan. They didn't leave us a chance to live!

R: When do you think such transition happened?

P: Sorry?

R: I mean, they were good at the beginning, then they changed – when did this happen?

P: It was during the reconstruction. When the reconstruction began. (P16-30-M)

In accordance with the previous analysis, this participant also mentioned that the local government was good in the first phase, however, the local authorities changed “when the reconstruction began”, i.e., when the second phase began. This complaint was mentioned by almost all other participants: they reported that they were told by the constructors that they would live in the new houses for free, however, the local government charged them afterwards. This participant thought the local government’s behaviour was inconsiderate because the civilians had lost everything, and it was difficult for them to pay for the new houses. The civilians’ goal was to resume their life with as less burden as possible, and the local authorities seemed to have played a role that worked against the civilians’ goal. This has caused the division between the civilians and the local authorities, as shown by the participant who had clearly drew a line between these two groups: “we civilians” and “those government officials”.

While some participants condemned the local government for not keeping their promise of giving them new houses for free, which made their life much harder, some other participants believed that the local authorities, on the other hand, had much better life than what they should have:

Extract 13

P: After the earthquake, I knew that every government official had one bottle of Wuliangye, more than 1000 yuan for each bottle. They drank as much as they wanted. As much as they would like to have. One bottle of Wuliangye costs a little more than 1000 yuan, about 1100 or 1200 yuan. Another official bought a house in Dujiangyan, worth about hundreds of thousand yuan. How could they afford it with their salary? (P3-60-M)

In this extract, the participant implied that there was corruption among the local authorities, as they were not supposed to afford Wuliangye (a luxurious Chinese liquor brand) and houses in Dujiangyan. This accusation of corruption among the local government officials was not uncommon, but at least half of the participants refused to talk about it during the interview because they were worried that telling these stories would cause trouble for them. However, when they were more comfortable and familiar with me, some of them would talk more about it in casual chats. For example, a fellow villager had shown me that there was a parking lot at the entrance of the town, and that it was owned by an official in the village. There was a man in uniform (looking like a traffic policeman) guiding people to go to that parking lot. The participant told me that he was a fake traffic policeman, also a relative to the village official, and his job was to “force” the visiting vehicles to park in their family parking lot so that they could make money. Normally people who were new to Yingxiu would follow the instructions of the “traffic policeman” as they thought they were only supposed to park there, however, there were many free parking slots in town (field note, 14 May).

There were more other accusations of different types of corruption, such as keeping relief supplies privately and misappropriation of relief funds. Although none of the participants could provide any concrete evidence of their accusations, these rumours have implied that the civilians believed that the local government officials were better off than the civilians after the earthquake. As one participant vaguely implied: “some people were better off after the earthquake” (field note, 14 May). In another word, people were no longer equally influenced by the earthquake so that they no longer shared the same

category – the civilians were still victims, however, the local authorities did not seem to be victims anymore, instead, they were somehow considered to have benefitted from the earthquake. To sum, the division between the local authorities and the civilians emerged when the second phase began and when the local authorities got hold of more resources.

4.5.3.3.2 Shared identity among the civilians

The division between the civilians and the local authorities had fostered a subtype of shared identity among the civilians. For example, there was another complaint against the local government about money distribution:

Extract 14

P: Well, we civilians, how to put it...you know, we never complained about the central government. They were good. However, the local ones were problematic.

R: You mean later, the work in the resettlement period?

P: Yes, yes, yes. The resettlement. For example, there was much more compensation money than we actually received.

R: How much did you get?

P: It was 600 kuai per capita. This was to cover a month's living expenses. It should have been more than 600 kuai. (P13-40-F)

The participant's attitude toward different levels of the government was typical in the village: almost all the civilians were happy with the policies made by the central government, however, they were not satisfied with the local government, where corruption was suspected by the residents. Again, this participant added "we" in front of "civilians" to indicate their identity with the ordinary people, as opposed to the local authorities. Here is another account of such identity strengthening:

Extract 15

P: We civilians are never as advantaged as the local government. The local authorities protect and help each other. (P17-30-F)

According to this participant, not only was the civilian group disadvantaged compared to the authority group, the authority group also tried to maintain their group

position by “protecting and helping each other”. Therefore, during the second stage, the relationship between the civilians and the local authorities was no longer harmonious, instead, there was a clear division between the two groups, which fostered a subtype of shared identity among the civilians. As a result, the general sense of shared identity emerged in the first phase, which included both the civilians and the local authorities, was destroyed. While common fate served as the antecedent of general shared identity, the antecedent of the civilians’ shared identity seemed to be the difference of the social status between the two groups. The local authorities were in a more advantaged position, had more resources than the civilians, and they were accused of taking advantage of their status and resources to live a better life. The civilians, on the other hand, seemed to have less resources to recover. This emerging status cleavage has caused the division of the groups, which consequently strengthened the shared identification between the civilians. While the antecedent of the civilians’ shared identity was clear, there did not seem to be any consequences of it – most of the participants just reported their accusations or complaints against the local authorities, and their sense of identity with the civilians, however, they did not report any further behavioural consequences. Nothing was done to change the status quo, and they seemed to just grin and bear it (field note, 17 May). But not everyone was silent. In the next section, I will show that there was a subgroup created from the civilians’ group, and they had taken actions to confront the local authorities.

4.5.3.3.3 Shared identity among the parents

As explained above, even though many participants were not satisfied with the local authorities, they did not take any collective actions to change the situation. Some participants said some people would quarrel with local government officials about unfair supply distributions, but it was just individual cases. No accounts of any collective actions (as the civilians’ group) against the local authorities were reported. The parents’ group was the first and only group that stood against the local authorities and fought for what they thought they deserved. Here “parents” refer to the parents of primary school students. These parents were slightly different from other survivors even from the beginning:

Extract 16

R: So you mean the unity or cohesiveness was strong at the beginning of the earthquake, in your point of view.

P: Definitely, especially in the primary school. It was really...at that time, it was really...the parents were all united as one. The parents felt so differently, really. The feelings were so different. There are two most suffering things that could happen to a person. The first is losing one's own children, and the second is losing one's parents. Whichever happens could put you in misery for your whole life. I think, when your parents are gone, compared to losing your children...losing your children is much more painful than losing your parents. It was, after all, parents, for example, if you lose your parents in the earthquake, you would feel sad for about a year or two. However, if you lose your children, you will be in pain all your life. That's why I said parents were united when we were in the school. (P1-30-F)

The participant differentiated a sub-group of survivors: the parents, by which she implied young parents who had children in the primary school. She said the parents were different because they all suffered from the possibility of losing their children and because losing one's children was the most devastating experience to a human being. In Chinese culture, one of the most miserable life events is “the grey hair (i.e., the parents) sending off (a mild way of expressing ‘watching someone die’) the black hair (i.e., the children)”. Therefore, those who lost their children in the primary school were naturally a little different from the other survivors as they suffered from more psychological pain. In this sense, shared identity among parents had an extra antecedent apart from “all being caught in the disaster” – they also shared the sorrow of losing their children. In the first phase, shared identity among parents was not significant in the background of general shared identity. The parents might feel worse than the others, but there was no basis for them to gather up and formed a sense of shared identity. However, after the emergent period, there was an incident that made the parents' group identity salient.

There were a primary school and a high school in the village. Most students in the high school survived because the buildings were relatively new and did not fall completely to the ground. On the other hand, almost half of the students (222 out of 473) in the primary school lost their lives. After the earthquake, the local government gave some compensation money to the high school parents who lost their children, however, the parents who lost their children in the primary school were not compensated (field note, 19 May).

The primary school parents were not happy about this and they demanded an explanation from the primary school and the local government. The parents first gathered

and had several meetings with the primary school headmaster and the local authorities, however, no progress was made. The headmaster and the local authorities refused to pay them the same amount of compensation as the high school parents had.

Extract 17

R: Did this event make the villagers, especially the parents, more united or...

P: More united, definitely more united. There were more than two hundred of us, and we all fingerprinted ourselves on the petition document and signed our names. Then we presented the petition to the higher-level government in Wenchuan. However, the Wenchuan government refused our proposal. They did not accept it. After that, we planned to make it to Beijing...however, the plan somehow leaked and those who (tried to do it) were stopped and taken back to town on their way out. (P17-30-F)

In this extract, the participant confirmed that the conflict between the parents and the local authorities (including the headmaster) made them more united, and such unity urged the parents to take collective actions to defend themselves. However, their efforts did not make much difference – the meetings with the local authorities were in vain and their petitions had failed, too. The conflict ended when two aggressive parents beat the official of the local education bureau and got arrested. After this, there was no more accounts of collective actions of the parents, and their appeal remained unresolved.

Despite the fact that the parents' collective efforts were not successful, the parents had shown that there was a sense of unity among themselves ("definitely more united"). In another word, there was a subgroup of the parents, and their outgroup was the local authorities. The authorities' differential treatment to the two different parents' groups seemed to be the cause of the formation of the group. Or it could be rephrased as "the common experience of disadvantage led to the shared identity among parents". The consequence of this shared identity was the collective efforts these parents made. The conflict between the parents and the local authorities marked the peak of intergroup tension in Yingxiu after the earthquake.

What needs to be clarified was that, although the local authorities' conduct had created the parents' group, the parents from the primary school and those from the high school did not seem to be two opposing groups. There were no accounts about the relationship between these two groups at all (field note, 23 May). It seemed the primary

school parents did not think the high school parents were in any part of this division from the beginning. It is also worth re-emphasizing that the complaints or conflicts were only targeted to the local authorities, while the participants' attitude towards the central government was always positive (field note, 24 May). In fact, the central government's quick response and effective rescue and recovery policies had contributed to another subtype of shared identity: national shared identity.

4.5.3.3.4 National shared identity

Although shared identity seemed to be more specific in certain circumstances, during the second phase, a more general and abstract type of shared identity arose as well: national shared identity. Sometimes participants extended unity to a national level:

Extract 18

P: People's spirit was like, it was like the Chinese dragon, Chinese people were just like that. There was no "yours" or "mine" at that time. There were some merchants from outside the village, and they delivered trucks of garlicks, onions, pumpkins, and bottled water once the road was cleared. They unloaded the cargo and left, without entering the village. They never asked for a receipt or things like that to prove that they had donated a lot. Never.

R: They left after they unloaded the stuff.

P: They pulled over along the road and put the stuff on the side of the road and left.

R: You said they were outsiders?

P: Yes. They were merchants. Just like that. This embodied the great spirit of the Chinese people. There were a lot of it, like the reporters I met on the crane. There were also some foreigners. What is the Chinese dragon, the Chinese spirit? Being together. Everyone being together. (P8-60-M)

The participant first introduced his interpretation of the Chinese spirit, and he then gave an example of merchants donating food and water to the village, without intentionally letting anyone know. At the end of the extract, he concluded that it was "everyone being together" that comprised the Chinese spirit. Although help was still mixed with the concept of the sense of unity, a distinctive difference between the examples of national shared identity and general shared identity was the people who

offered help. Under general shared identity, the survivors helped each other, while under national shared identity, the unaffected outsiders helped the survivors. In another word, group boundary extended from survivors to the whole nation. Again, this did not imply that every single person in China was united with the survivors (especially not the local authorities, perhaps), rather, it was an abstract and general sense of national unity. Many people reported that they had a sense that the whole nation was connected because of the disaster (field note, 21 May).

Unlike general shared identity, which happened almost immediately after the earthquake and originated from common fate, national shared identity was not reported until people began to receive help from outside forces (e.g., the central government, the army, and volunteers). In this sense, general shared identity seemed to be formed via a top-down process, while the national shared identity was formed via a bottom-up process. After all, it seemed a little odd for the survivors to categorize themselves as Chinese people immediately after the earthquake, since the survivors' group better represented the social reality.

It was hard to say what this national identity had led to because participants were the recipients of help. In most accounts about national identity, people just described their gratitude to those who helped them and their feelings of pride as Chinese people (field note, 21 May). It seemed national identity just remained in a cognitive and affective form, as a sense of unity with the whole nation, whereas there were no behavioural components of it.

To conclude, in the second phase, shared identity had developed into several subtypes: shared identity among civilians, shared identity among parents, and national shared identity. Each subtype had their distinctive antecedents, but only shared identity among the parents had led to collective actions. The most important feature of the group processes in the second phase was the division between the civilians and the local authorities. The division was forged when the local authorities regained their power, had more resources, and most importantly, when they were accused of corruption. The division reached its peak when the primary school parents had multiple conflicts with the local authorities, and then it became less intense. The tension between the civilians and the local authorities had lasted to the third phase, until May 2017, when the study was carried out.

4.5.3.4 The third phase

In the third phase, accounts of shared identity and its subcategories became scarce. People returned to Yingxiu after about 2 years, and their aim was to start a new life in their newly built hometown. The division between the civilians and the local authorities was still reported, however, their negative relationship was mild, and there were no conflicts reported during this period. The residents' dissatisfaction with the local authorities went no further than just complaints and moans between themselves.

4.5.3.4.1 *Shared identity slowly faded away*

When people entered the third stage, shared identity or its sub-categories were no longer salient in most daily occasions. Shared identity gradually disappeared as time passed by. People went on with their own life, and there was no need to look out for others all the time.

Extract 19

R: How long do you think the sense of unity lasted?

P: Until the reconstruction. From the beginning of the earthquake, the rescue, until the completion of reconstruction. I think unity was strong during that period.

R: Then people moved back and it...

P: Slowly disappeared, just like that. Because people were far from each other. There were other cases, for example, my sister-in-law married again in a faraway place, out of reach. Unity...I think unity was, it made me feel happy. For example, sometimes we talk about it, I think we are happy that people in Yingxiu were very united during the earthquake. (P16-30-M)

This participant thought that the sense of unity slowly disappeared over time and that it had lasted until the reconstruction completed. The participants did not seem to have a consensus on when exactly the sense of shared identity was gone. Despite this, there was a pattern about when shared identity became less significant – most participants reported that it disappeared when people got on with their own life, or when they moved out of town and no longer lived with each other. What united people in the first place – common fate or shared disadvantage – were no longer salient, so there was no basis for shared identity anymore. This was true for the different subtypes of shared identity,

because each subtype of it may become less significant and salient when they were less important in social life and other social identities took over, as suggested by Turner (1982) in explaining identity salience.

4.5.3.4.2 Long term consequence of shared identity

Although shared identity eventually faded away, it has left a long-lasting effect on people's life. Before the earthquake, people's relationship with each other was either neutral or negative. For example, some participants reported that people would get into a conflict with each other over very minor monetary issues, such as bargaining (field note, 16 May). Some other participants concluded that although people had their own friend circles and were nice to family and friends, there was little sense of unity as a community or as Yingxiu people (field note, 7 May). Whether the participants thought the relationship between the civilians before the earthquake was good or bad, however, almost all of them reported that they were more united, or that their relationship was "more harmonic" (field note, 18 May) after the earthquake.

Extract 20

R: Do you think there is any change in people's relationship?

P: Yes, there is. (People) are more united than before. For example, if someone is in the middle of something and needs help, others would come (to help). Just like that.

R: (They) didn't come to help before (the earthquake)?

P: People would come, but now they are friendlier and warmer than before. (People) have experienced the earthquake, and they become, how to put it...more...uh, people help each other whenever someone gets into trouble. Giving others a hand, just like that. Just give a shout (for help) and people will come, you know. (P5-30-F)

Like most other participants, this participant believed that people were "more united" than before, and she illustrated this point by giving an example of help. When the researcher asked her whether there was no help before the earthquake, the participant realized that her argument was invalid, so she rephrased her speech: people were friendlier and warmer in terms of helping. In another example, a participant told me that after the earthquake, people would hang their bacon (air-dry) outside their houses without worrying that it would be stolen; however, this was impossible before the earthquake as

it was not safe to leave the bacon unattended (field note, 16 May). It seemed that the psychological distance between people became closer, which was very much like the unity people experienced in the disaster (e.g., interchangeability). Help could happen more easily (“just give a shout...”), which highly aligns the feature of help during the earthquake (“if you shouted for help... I could put aside my own business to help you”, see Extract 5). Although people did not explicitly report that shared identity had led to this change, given the similarity between the present sense of unity and willingness to help and those during the disaster, it is possible that this benevolent transition in people’s relationship was the long-term consequence of shared identity. In short, shared identity had possibly made people more united.

Not only was this enhanced unity caused by shared identity during the disaster, it could also be constantly reminded by the shared experience or memory of surviving the earthquake. Yingxiu was rebuilt as a tourist attraction after the disaster, and its selling point was the earthquake. There were many earthquake themed constructions, such as an earthquake museum (see Figure 4.10), a park with ruins of the high school, a cemetery built on the site that used to bury almost all the people that were killed in Yingxiu, an earthquake research center, and a memorial park (field note, 2 May).



Figure 4.10 Photo of the modern style earthquake museum, taken by me in May 2017

Beyond these public constructions, individuals' business also revolved around the earthquake theme, for example, there were small earthquake experience suites (a shaking room to simulate the earthquake), tours on the earthquake theme (going around the town and explain what happened in each place), and restaurants or hotels named after the earthquake (e.g., Earthquake Centre Restaurant) (field note, 2 May). Every year, there would be a memorial ceremony at the ruins site (see Figure 4.11).



Figure 4.11 Photo of the commemoration on 12 May 2017, taken by me

Basically, peoples' life was rebuilt on the earthquake because without it, Yingxiu was hardly a good tourism site due to its location and scale. Yingxiu was small and located on the only way to the more famous tourist attractions, such as Wolong (panda zoo) and Siguniang Mountain (famous mountain), so tourists normally would not stop here (field note, 5 May). However, because of the earthquake, and that the fact that Yingxiu was the center of the earthquake, many people would come over and visit this place. Since tourism was almost the only industry in town, it seemed that "the earthquake had destroyed Yingxiu, but it also saved those who survived" (field note, 6 May).

These constant reminders of the earthquake could have played a role in sustaining people's shared identity. For example, many participants expressed similar gratitude to me and other tourists, because we promoted local economy:

Extract 21

P: Thank you for your support and help. Sincerely. Only when you visit, we are able to have income. Yingxiu's economy was promoted by you. Without you, we would not even have a penny. (P9-30-F)

This was a nice example showing that the identity as Yingxiu residents ("we") was often made salient because of the tourists. They thanked people for coming over and buying things, which fueled the engine of Yingxiu's economy. Since encounters with tourists could happen almost every day, this shared identity was then sustained. In this sense, while the participants reported that their sense of shared identity disappeared when they moved out during the reconstruction, it seemed to have returned when they moved back into Yingxiu, where they were constantly reminded that they were the survivors of the disaster.

4.5.3.4.3 A mildly negative relationship between the civilians and the local authorities

In the third phase, the intensity between the civilians and the local authorities has declined. Although there were still scattered reports complaining about the local authorities, no collective actions against the local authorities were reported at this stage. people would rather spend more time living a happy quality life than arguing with the local authorities:

Extract 22

P: Life was short so we live in the moment. We cherish the present. It is happy to be alive. To be honest, everyone here is happy. We need to cherish such beautiful life, and never think about the bad sides of it. We should live happily for every minute and every second. (P21-30-F)

Most people were like this participant, who tended to ignore those problems. Nothing mattered more than living a happy life. Moreover, compared with the second phase where people were not settled and they did not know what their life was going to

be like, in the third phase, most people were satisfied with their new life and the new town:

Extract 23

P: (Things) are better (than before). Look around, look at the environment. You know, people say that the streets are more flattened when they walk around. Before this, it was just like a village, the ground often needed to be flattened.

R: The constructions are good now and (people) just live on.

P: Yes. You see, every family has their own business, and lives in villas. A lot of people are jealous of our place. (P19-30-F)

This satisfaction was widely reported. These accounts also aligned with my observation, for example, this was one of the street views of Yingxiu before the earthquake (see Figure 4.12):



Figure 4.12 Photo of Yingxiu before the earthquake, online resource

On the other hand, this is what Yingxiu looked like when I was there (see Figure 4.13):



Figure 4.13 Photo of Yingxiu in 2017, taken by me

According to Figure 9, 10, and 13, it could be seen that the infrastructure and town planning were much better than before. Therefore, since people were satisfied with their new life, it was understandable that they were less motivated to argue with the local authorities. The reason why the division between the civilians and the local authorities was still salient was that participants continued to use “we the civilians” and “they the local authorities” during this phase. Moreover, people seemed to have little trust in the local authorities. For example, one participant told me that when the Yushu earthquake happened in 2010, the fellow civilians had voluntarily organized a donation and they decided not to let the local government to handle this, and they sent some people to escort the donations to Yushu and distribute the supplies to the survivors directly (Field note, 16 May). Therefore, it seemed the relationship between the civilians and the local authorities was still negative, but only in a mild way.

4.6 Discussion

The first aim of the present study was to investigate the generalizability of the social identity model in a non-Western context and also in an extreme event. The data has shown that there was a strong sense of shared identity among the survivors of the 2008

earthquake. A large proportion of participants had reported that people were very united during the disaster. This was true in both the interviews (20 out of 21 participants reported unity) and in my field notes where, according to my observation and engagement in casual chats, almost everyone admitted that there was unity. The only case where a participant negated unity was my landlord, and this could be caused by his lone-wolf style of dealing with things (e.g., setting up his own shelter instead of staying with the others at the first night). However, this did not mean that he kept his distance from the crowd, rather, he tried to help others as long as he could. Considering that this was the only case where a participant did not have a sense of unity compared with all the other accounts, it could still be concluded that shared identity was a widely reported phenomenon in the earthquake. Moreover, previous research has shown the same pattern: unity was widespread; however, this did not mean that everyone had to report it. For example, in the comparative study about various emergencies, the results showed that 12 out of 21 participants reported unity (Drury et al., 2009b). There were reports of selfish behaviours, which conceptually undermined shared identity. However, selfishness was not common, because almost every participant who gave examples of selfishness would also say that those cases were exceedingly rare, and that the vast majority of the survivors were very united. Taken these two points together, it can be concluded that there were widespread evidences of the shared identity phenomenon during the earthquake.

This result echoed the findings of previous research, but it also provided some new knowledge. First of all, it has shown that the shared identity applied in a non-Western, or to be specific, a Chinese background, which was not examined before. It could be argued that interpersonal bonding in a collectivistic society had already reached ceiling so that there was no room for the social identity processes; or that a cultural tradition of valuing a prosperous extended family was so strong that people would prioritize family over others in such a catastrophic disaster. However, the data has shown that neither of these conjectures happened. In fact, the overall social identity phenomenon participants reported were almost identical to those found in previous research. Secondly, the result has shown that the social identity model could be applied in an extreme event. To my knowledge, almost none of the events examined in previous research were comparable to the 2008 Wenchuan Earthquake, in terms of the damage and casualties. As some participants pointed out, Yingxiu was literally hell itself. In this case, it could be argued that people's survival instinct may make them more selfish, prioritizing personal and family's safety in the situation where there was continuous threat of death. However, the

data has shown that unity was overwhelmingly reported by the participants whereas selfishness was very rare. To conclude, the social identity phenomenon was reported and the social identity model was applied in this non-Western, extreme event of emergency.

In line with previous research (e.g., Drury & Reicher, 2000; Drury et al., 2009), the present study also found that common fate was an important precursor of shared identity. When describing unity, participants often emphasized or rationalized their solidary behaviours by saying something like “we were all influenced by the earthquake” or “the earthquake had affected everyone”. This sense of common fate functioned as comparative fit (Turner, 1981) as it best represented the social reality in the face of the survivors – nothing seemed to be more important than the fact that they just survived an earthquake, and this made people fall into the same social category. This categorization process also clarified the group boundary: “we” or “everyone” as the survivors against the common “out-group”, i.e., the disaster. While common fate was a widely reported antecedent of the shared identity processes, it seemed to be specific to the general sense of shared identity. Different subtypes of shared identity seemed to have different antecedents, and they will be discussed later.

The results have shown that there were short-term and long-term consequences of the shared identity processes. The most frequently reported short-term consequence of a shared identity was mutual help, consistent with most of the previous findings (e.g., Quarantelli & Dynes, 1972; Reicher & Haslam, 2010; Drury et al., 2016). Mutual help took many forms, such as rescuing others, sharing food, and taking care of neighbours. What was interesting was that there were more accounts of rescuing and helping *other people* than rescuing and helping *family members*. Although this did not imply that participants cared others more than their families, it could indirectly reflect the fact that mutual help was an important feature of collective behaviours, and it was comparable to the importance of taking care of one’s family. As analysed in section 5.3.2.3, sharing food was not instrumentally meaningful because it was not those who had more food shared it with those who had less, rather, people shared food no matter how much they got hold of (they would share food even if they did not have enough for themselves, as shown in Extract 10). Therefore, sharing food sent a message of mutual care and support, a message that “mine is yours and yours is mine”, i.e., interchangeability. This sense of interchangeability blurred intragroup dissimilarities and interpersonal boundaries, making mutual help feasible. The long-term consequence of shared identity was more

perceived unity among the residents. When asked what had changed in the relationship among the locals, many participants reported that they “became more united”. This was often reflected by more readiness to help others when needed. It was also manifested by increased interpersonal trust – some participants reported that people would hang their bacons outside without being worried that they would be stolen, and that this was impossible before the earthquake. In this sense, although the emergent shared identity faded away gradually, the sense of unity people used to have did not vanish completely. This echoed some of the work that focused on collective psychosocial resilience (e.g., Williams & Drury, 2009; Drury, 2012), where social support was associated with more collective efficacy and wellbeing. However, they are different because what participants meant by “being more united” was not constrained in the post-earthquake framework, rather, it was referred to their general sense of interpersonal relationships. People were not facing any direct or secondary stressors caused by the earthquake, but they remained more united than before. In a word, emergent shared identity could result in more community spirit in the long run. This also echoed Ntontis and colleagues’ (2018) research proposing that shared identity could be transformed into enduring social capital after a flood.

While I have conceptually differentiated the short-term consequence (mutual help) from the social identity processes, following previous work on the social identity model (e.g., Drury, 2018), however, the participants often mixed mutual help with the concept of unity. To be specific, many participants would report something like “people were united”, “we were united”, or “everyone was united”, which described the social-psychological feature of interpersonal relationship, i.e., the cognitive component of social identity; however, when they explain or illustrate the unity they referred to, the participants often provided examples of mutual help, which was considered the behavioural component of shared identity. It seemed the participants did not differentiate the cognitive component of shared identity from the behavioural component of it. It was possible that the behavioural and the cognitive component of unity were simply of one concept in participants’ mind. Another plausible explanation was that of the cultural influence. To be specific, Chinese people seldom speak about their personal feelings, so it was possible that they did not emphasize shared identity as a personal feeling. For example, while there were many accounts like “everyone was united” or “we were united”, there was no single case where people specifically said, “I felt united with the others”. In previous research, the cognitive component of shared identity was often measured in a

way that emphasized participants' personal attachment with the group. For example, in Drury and colleagues' (2016) survey study, shared identity was measured by four items phrased like "I feel unity with others" and "I identify with the other people affected by the event", the kind of phrase Chinese people hardly use. In this sense, it was possible that the participants did not voluntarily separate the cognitive or affective component of shared identity from the general concept because they were not used to talking about personal feelings, instead, they were more comfortable talking about interpersonal relationships, such as "**we** were united" and "people helped **each other**". Therefore, when the participants were asked what unity meant, they tended to use the behavioural element to explain it, which kind of created a vicious circle: "what were people like?" – "they were united" – "why do you say they were united?" – "because they helped each other" – "why did people help each other?" – "because they were united". Nevertheless, even if the data did not clearly show that the cognitive component of the shared identity phenomenon was the cause for the behavioural component of it, it has at least shown that these two concepts were closely linked with each other and were both very important elements of the social identity phenomenon.

One unique contribution of the present study is that the results have shown that there were multiple subtypes of shared identity. In previous studies, especially those adopted an experiment or survey design (e.g., Drury et al., 2009; Drury et al., 2016), shared identity was often treated as a static conception, while the variation of it was overlooked. In the present study, four different subtypes of shared identity were identified: general shared identity, civilians' shared identity, parents' shared identity, and national shared identity. These different subtypes of shared identities functioned at different levels of abstraction, i.e. different categorization processes, which resulted in different group boundaries and different group identities. The reason why they were defined as subtypes of shared identity instead of different shared identities was that they were conceptually close enough – they overlapped on a fundamental basis that the participants were the survivors of the earthquake. The general shared identity was the unity that was widely reported in previous research, that participants often used "we were all united" or "everyone was united" (e.g., Drury et al., 2009b) to describe the sense of a shared identity. The general shared identity was caused by common fate, as explained earlier in this section. While there were many accounts of general identity, more nuanced variations of it emerged over time. The civilians' shared identity emerged when participants perceived a discrepancy between the civilians and the local authorities; the parents' shared identity

emerged when primary school parents felt they were treated in disadvantage by the local authorities; and the national shared identity emerged when survivors received various sources of support from the whole nation. They were not mutually exclusive, instead, they could coexist at the same time. For example, while a participant (P17-30-F) said the parents group was different from the others because they suffered from loss of young children and unfair treatment, she also pointed out that “*We civilians are never as advantaged as the local government*”, implying that she also thought she belonged to the civilians group. This meant that she held the parents’ shared identity and the civilians’ shared identity at the same time.

These subcategories of shared identity have revealed a more sophisticated picture of the shared identity processes in emergencies, and by recognizing them, the trajectory of the shared identity processes could also be better explored, for example, the data has shown that the general shared identity in the first phase gradually transited into the civilians’ shared identity in the second phase. Although the earthquake has influenced everyone indiscriminately, which served as the basis for common fate and henceforth the general shared identity, people might not feel they share the same fate after the emergent period when they realized that there was unfairness, that the local authorities were better off than the civilians. In another word, the civilians and the local authorities did not share the same fate anymore – they were differently influenced by the disaster then. As a consequence, the previous categorization of a general shared identity that included every survivor was no longer a good reflection of social reality, whereas a separated civilians’ group made more sense since they were disadvantaged compared with the local authorities’ group. This transition has shown that while being influenced by the earthquake or being a survivor of the disaster remained constant, the nuanced social context would change the nature of the shared sense of unity. Group boundaries were redefined, so the general shared identity developed into the civilians’ shared identity. In this sense, studying these subcategories of shared identity was useful in understanding the trajectory of it over time.

In terms of the trajectory of shared identity, the present study has provided a detailed profile of it. The general shared identity emerged almost immediately after the disaster, as there were already reports of mutual help in the afternoon on 12 May (the earthquake happened at 14:28). The general shared identity lasted for a couple of weeks and started to dissolve in the initial recovery phase, when the division between the civilians and the

local authorities began to emerge. The general shared identity was then transited into the civilians' shared identity, from which the parents' shared identity was separated. This happened when the primary school parents felt that they were treated unfairly by the local authorities, and they took some collective actions to change their situation. Meanwhile, people also reported a sense of national identity, where they thought the whole nation was united to fight against the disaster. National shared identity happened when people began to receive continuous and tremendous support from the central government, the army, and volunteers, etc. In terms of the fading of these shared identities, since participants did not differentiate these concepts, they did not talk about them separately. Rather, they would report in a general sense that unity slowly faded away, and it normally happened when people returned to their own life and especially, when the reconstruction began and people no longer lived together. In another word, these shared social identities became less salient when other social identities became more important in people's life. However, this did not mean that their sense of an identity as survivors of the earthquake disappeared. Rather, this shared identity was constantly reminded by the fact that Yingxiu was an earthquake-themed tourist attraction and that people's life was built upon it.

Finally, I would like to discuss about the positionality issues. As introduced in the analysis section, I played a role as an outside researcher and people respected me and were therefore cooperative. This was beneficial to my data collection as people thought I was there to help them, so they were willing to share their experience and stories with me. Moreover, since they also did not want to disappoint me, many of them were happy to introduce me to their family and friends so it was relatively easy for me to approach different people via this snowballing process. The downside of this positionality was that people often assumed that I wanted to know about the severity of the earthquake, possibly because they thought that was worthy of being researched. This did not cause too much trouble as I would simply ask more specific questions about group dynamics to make them understand what exactly I was interested in. Therefore, I would say that the relational positions between the participants and I did not significantly influenced the data.

While the present study has preliminarily yet successfully explored the general research questions, especially question one and two, there are certain limitations that need to be addressed. The first one has to do with the use of retrospective data. While investigating an event that happened nine years ago was essential because I wanted to explore the trajectory of the social identity processes, such a long time span might also

have introduced recall bias. This could potentially undermine the quality of the data, however, the bias was controlled to some extent, as the data were retrieved from multiple sources, and the results were triangulated to maximize accuracy. Secondly, although I have introduced an opportunistic method to recruit participants, it was possible that these participants were coherent in some way: according to some participants, those I saw on the street or in shops were people who recovered better; there were also some people who had hardly recovered from the tragedy and they seldom got out and meet people. These people might give a different story of group processes during and after the disaster. This leads to another “limitation” of this study, that is, the 2008 Earthquake might be too extreme and catastrophic for the results to be generalized. The severity of the disaster might have impacted the social-psychological processes that I am investigating. For example, since the earthquake has torn down almost every resident’s house and buried or destroyed almost all of their possessions, there could be more perceived similarities between people, compared with other types of emergencies such as a slow-rising flood. In such a flood, the resources people have to deal with it are strongly dependent on what people own in the first place; while in an earthquake, people’s past resources are wiped out and they all have to recover from square one. In this sense, people were more similar with each other in terms of their situation. According to SCT, more perceived similarity could result in stronger shared identity. Therefore, it was possible that the results of this study were unique to this earthquake setting.

To solve these issues and further explore my research questions, another field study was designed, and it will be illustrated in the next chapter.

5 STUDY 2: FLOODING IN IRELAND

5.1 Rationale for the present study and research questions

In the previous chapter, I have discussed the contributions and limitations of the earthquake study. Now I would like to summarize the main concerns I had about the first study, and then introduce the rationale for the present study.

The first concern, as discussed in the limitation part in the previous chapter, was that the 2008 Wenchuan Earthquake could be too catastrophic for the events to be generalized. The mere severity of it may have significantly influenced the dynamics of shared identity. For example, after the earthquake, it was not until a year later when the reconstruction began in Yingxiu, and during this period, the majority of the survivors were settled in prefabricated houses on a square, which created a situation where people were more closely linked with each other because of this almost zero-privacy living condition. As many participants pointed out, people were willing to give each other a hand whenever needed during this period (second phase); and some of them thought this sense of unity disappeared after this period (e.g., in Extract 19, the participant thought shared identity lasted “until the reconstruction”). Therefore, the duration of shared identity could be prolonged by this special situation, instead of following its “natural” trajectory. After all, not many emergencies or disasters involve this kind of situation.

Another concern of the catastrophic earthquake was that, compared with other less severe emergencies, survivors of the earthquake were more similar in terms of their situation: most of them were penniless, having limited resources (e.g., food, clothing, and shelter), and limited social capital (Aldrich, 2012) since the previous social networks were not functioning properly due to casualty and the mere fact that no one was in a better situation than anyone else. As a consequence, the perceived similarity among survivors could be stronger than that in other emergencies, where people’s financial and relational situations differ from one another; and according to the SCT, this stronger sense of similarity could result in stronger or more persistent sense of shared identity, which again,

limited the generalizability of the results. Therefore, it is equally important to investigate the history of shared identity in less severe situations, as people may perceive less similarity among them, which may result in less unity.

In the earthquake study, the participants reported that the relationship between people were either neutral or negative before the earthquake. This makes it difficult to know the role of pre-existing community unity in the process of disaster recovery. The results have shown that shared identity among the survivors of the earthquake was strong, however, it was unclear whether the shared identity processes would be changed if Yingxiu was a strong community-oriented town and people were united before the earthquake. For example, it is possible that the shared identity processes will be “muted” since people are already united so there is no room for extra unity; or it is possible that shared identity will be even stronger than that in study 1 because people know each other better and trust each other more so that the emergent shared unity will be strengthened. Many previous studies (e.g., Drury et al., 2009a; Drury et al., 2009b) emphasized that the shared identity phenomenon was observed even in groups of complete strangers, however, few of them have addressed the influence of pre-existing unity on shared identity. Therefore, it is useful and important to know whether previous connections between people would influence the shared identity processes.

The final concern was that the earthquake basically influenced everyone equally, at least in the emergent phase, whereas there are disasters that influence only a certain part of a community, such as a flood. Often in a flood, those who live on the lower ground are directly influenced while those who live on the high land could remain intact. Therefore, the disaster has seemingly created two groups in the community at the beginning of it: the flooded and the unaffected. In an event like this, will there be a general sense of shared identity that includes the whole community? Or will there be a division between the flooded and the unaffected? How will these two groups of people interact with each other to deal with the flood? It will be useful to know how the social identity processes are shaped in this situation.

To summarize, the present study sought to answer my main research questions (i.e., how shared identity develops over time and what factors may influence it) in a different setting, where there were three conditions that I wanted to explore: the social identity process in (1) a less severe and catastrophic disaster, (2) a place where there was more

community spirit before the disaster, (3) a disaster that did not influence the community equally.

Again, this study has been approved by the ethics committee of the university, and the main ethical concerns and the protocols to deal with them were similar to those in the first study.

5.2 Research design

Given the content of the new research aims, the most important thing of the present study was to find a disaster/location/community that matched those conditions that I wanted to explore. In the end, I chose a village in the west side of Ireland that was flooded in 2009 (the village was flooded in 2015 as well, but it was not investigated). There were several reasons for choosing it:

(1) It was not a flash flood, instead, the flood water rose slowly until it found its way into some people's houses. In general, people in the village did not suffer from a lot of damage and loss (and no casualty), except for a few of those whose houses were built on the riverbank. Therefore, it was relatively a mild disaster, compared with an earthquake.

(2) The village has a reputation for being one of the most community-oriented villages in Ireland. Therefore, there was pre-existing unity in the village before the flood.

(3) The flood has affected the lower part of the village, but it did not bring too much disruption for those who lived on the higher grounds.

(4) Though located by the river, the village has not been flooded for decades so that people had no prior experience of a flood in 2009. This was important because if people were very experienced in dealing with the flood, it might not be an emergency at all. From a post hoc point of view, participants did prove that when they were flooded again in 2015, they were so well prepared that there was little damage and disruption if not none.

(5) For practical reasons, it was an English-speaking village, so it was easier for me to discuss the data with my supervisor and colleagues. This was why I did not choose a flooded place in China.

In terms of methodology, the present study adopted a similar approach as that in the earthquake study. However, upon finishing the study, I found that participant observation

and ethnographic fieldwork provided little information of what I wanted to know. This was because the flood happened several years ago and people's life were no longer influenced by it, so that it was difficult to retrieve data about the flood in everyday life. Therefore, the interviews became the primary source of data since they were directly targeted on the research questions (See Appendix 2 for the guidelines for the interviews). As a consequence, only the interview data will be used in the analysis.

5.3 Background information about the village and the flood

The village is located next to a river, and it is about 11 kilometers from the nearest city. It is a scenic village and is known for fishing. Its population is about 2000. It has won the Pride of Place Award in recent years (The Pride of Place is a national wide competition and it was designed to “recognize and celebrate the vital contributions that community groups make to foster and improve their communities in sports, cultural activities, civic pride, caring groups, future planning, heritage, and environmental awareness”).

The flood was part of the 2009 Great Britain and Ireland floods, which took place in November and December in 2009. During the fieldwork, I acquired a petition letter written by the residents, which was used for making the government identify the village as a flood risk area. The letter has perfectly documented the damages caused by the flood:

“Substantial damage was done to walls, roads and paths as a result and the village was effectively cut in two. Properties incurred flood damage and as indicated above, 10 families were evacuated from the immediate area and 22 families in the extended parish area – some were out of their homes for up to 4 months.

The County Council spent a total of 2010 hours reacting to flood issues in November 2009, used 20,000 sandbags and 340 tonnes of sand.

A significant amount of machinery was required in the form of 8 pick-up trucks, 16 submersible pumps, 3 JCB's and a 10 tonne truck.

A graph in the report shows a level of 200cm/sec on 17th November 2009 rising to almost 500cm/sec on 27th November 2009 and this was still above 200cm/sec on 13th December 2009.”

There were also some photos of the flood, which were provided by the participants (see Figure 5.1 & 5.2).



Figure 5.1 Photo of a house that was flooded, provided by a local resident



Figure 5.2 Photo of a flooded house and the sandbag barriers, provided by a local resident

5.4 Research procedure and data summary

The study took place in May 2018. Upon arrival, I walked around the village and made myself visible to the residents. Then I began to approach to people on the street or in shops. I gave out some flyers about my research and put an ad in the central grocery shop. Meanwhile, I also tried to contact institutions that were involved in the flood, such as the local council, the city council (the village belong to the city), the local garda (i.e., the Irish police), and the city garda. Later, a researcher in the city university was introduced to me by a colleague of my supervisor, and the researcher had lived in the village for a few years (after the flood). The researcher introduced me to her neighbors, an old couple who lived in the village their whole life. I interviewed the couple and they then introduced me to another participant, and the snowball began to roll. I interviewed both people who were directly flooded (“directly flooded” was conceptualized as “the flood water entered people’s house”) as well as those who were not directly affected. The interviews were semi-structured, where I could ask specific questions about the shared identity processes (e.g., “how long did it last?”), and I could also allow participants to talk about their flood experience freely. There were two floods since the first one in 2009, however, many participants reported that during the 2015 flood, the residents and the local council were so well prepared that the flood had hardly caused any damage and disruption, so they thought there was nothing much to talk about in terms of group behaviour, as there were not any group level activities. Therefore, I turned to focus on the 2009 flood only, so all the data was about the 2009 flood. I ended data collection when I thought the data had reached saturation (Mason, 2010), as the interviews began to show repeated themes and no more useful information was acquired.

In sum, I have interviewed 18 participants, with a duration of 544 minutes in total (averagely 30 minutes per interview). The interviews were first machine translated by Xunfeitingjian and were then revised by me. Some parts of the audio were difficult to recognize so they were marked as “inaudible” in square brackets. The basic information of the participants is summarized in the following table (see Table 5.1).

Table 5.1 Basic information of the participants

Numb	Gend	A	Direct	Ro
P1	Male (M)	30-40	No (N)	City police
P2	M&Female (F)*	60-70	N	Resident (R)
P3	F	50-60	N	R
P4	M	40-50	Yes (Y)	R
P5	M	40-50	Y	R
P6	M	40-50	Y	R
P7	M	40-50	N	R
P8	M	50-60	Y	R
P9	M	30-40	Y	Pub owner
P10	F	40-50	Y	R
P11	F	40-50	Y	R
P12	M	50-60	Y	R
P13	M	40-50	N	R
P14	M	20-30	N	City councilor
P15	F	40-50	N	R
P16	M	30-40	N	Local police
P17	M & F	50-60	Y	R
P18	F	40-50	N	R

The participants were coded in a similar way as that in study 1, except that an additional information about whether the participant was directly (D) flooded or not (N) was attached at the end. For example, participant 1 was coded as “P1-30-M-N”.

5.5 Analysis

Before proceeding with the analysis of the data, I would like to briefly introduce the positionality issues I came across in this study. While I subjectively regard myself as a junior researcher, as I did in the first study, however, the participants seemed to emphasize on the “junior” aspect of my role – I often felt like being treated as a “child”. This did not imply that the participants thought I was childish, instead, they probably presume that I was alone in a foreign village doing research, so that I should be properly taken care of or helped. Therefore, unlike the first study where the participants thought I was helping them, in the present study, the participants actually thought they were helping me. The power situation was reversed in the present study. Moreover, as I was also a foreigner (from a developing country), some people would more or less likely to impress me by voluntarily saying something good about their community and their country.

In line with the first study, the present study adopted a thematic analysis approach. The interviews were transcribed and then coded by themes that were relevant to the research foci, including unexpected themes. The themes were then organized until they were distinct and coherent. Here is the list of the primary themes (see Table 5.2).

Table 5.2 Primary themes of the present study

Themes	Sources	Entries
Evidence of unity	12	26
Practical help	11	21
No long-term consequence	8	8
Expressions of help	5	7
Selfishness	5	5
Pre-existing unity	4	4
Fading of unity	3	5
Local council help	3	5

Generally speaking, the present study did not involve as complex the social identity processes as those in the earthquake study. There was evidence of the social identity

phenomenon, however, the intensity of shared identity did not seem as strong as that in the earthquake study, and the duration of it was short.

5.5.1 Evidence of shared identity

In general, two thirds of the participants (12 out of 18) had provided evidence of shared identity during the flood.

Extract 1

R: Ok. So how did this, uh, 2009 flood affect the community? Do you think it has influenced people's relationship or anything?

P: Yeah, yeah, well, yeah, and immediately after the the (flood), you could see there was a very strong community association there like with people after like the [inaudible] is the big part of it. You know, and it was doing to see that people helping each other, then you know, [inaudible] back towards the the at the house had to be [inaudible], furniture, carpets and that. And you can see all the community there together assisting with that. You know. So I thought it did like bring out, in, community spirit in a very high level at that time, you know. (P16-30-M-N)

According to this local police officer, there was a “very strong community association” in the village during the flood, which, in line with previous analysis, was considered referring to the sense of shared identity. Similar to the accounts from the earthquake survivors, this participant illustrated shared identity with examples of mutual help as well, showing that there was a strong association between the feeling of shared identity and behaviours of help. The participant used “all the community” to describe the scale of shared identity, implying that the sense of unity and actions of mutual support were widespread.

Not only did people who were not directly affected (e.g., the police officer) report unity, people who were directly flooded also showed that there was a great sense of community during the flood:

Extract 2

P: But like in the earlier days of of sandbags and things like you, you could see some people being a bit selfish and maybe taking more than their fair share.

R: So it was taken like, um, they they decide how many bags they they will take or?

P: Yeah. So it was very it wasn't structured. It wasn't the case of right a hundred bags to each house. It was just the council would come along and dump the bags there and you pick it yourself, you know. Um, so yeah, it would have been a little bit of that that some people like, as I said very much, I suppose they just looked after themselves that that was there of, you know, but then gradually as it got worse, people I think became more community. You know, they they said, well, we're all in this together. So what's the point in I save in my house. Well, I want to save my house, but I also don't want my neighbor to be flooded. So we people pitched in, I think, and and helped each other better... So yes, there was a great, um, there was a great sense of community, I think so.

R: IT's a um, so I can see that this um, this flooding things kind of makes people make people more united?

P: Oh, I definitely. Yeah. (P4-40-M-D)

This extract actually includes two themes, one is about selfish behaviours and the other is unity. I would like to quote the whole conversation because the participant provided a very important information about the formation of shared identity. The participant started off by saying that there was some level of selfish behaviour at the beginning, however, when people realized that the situation had got worse, they became more united. It seems the mere (perceived) severity or threat of the flood was an important factor that could change the level of shared identity – when things got worse, common fate began to emerge (“*we're all in this together*”) and so forth shared identity (“*there was a great sense of community*”) and helping behaviour (“*people pitched in and helped each other better*”). Then I asked if the flood had made people more united, the participant gave a strong positive reply (“*definitely*”), indicating that there was a boost in people’s sense of unity during the flood. In another word, although people in the village were united before the flood, they felt that the unity was strengthened during the flood.

5.5.2 Selfish behaviour

Selfish behaviour is the opposite of solidary behaviour and is therefore considered evidence of lack of shared identity. It was a phenomenon that undermines shared identity and helping behaviour, and it weakens the argument that unity plays an important role in collective behaviours during emergencies and disasters, as it suggests that there is no

point for people acting for others since those others would not act for them. In the present study, there was almost no accounts of selfish behaviour. Although there were 5 participants talking about it, however, most of them were actually reporting that there was no selfish behaviour. The extract in the last section was the only one claim of selfish behaviour, however, that happened when the situation did not look very bad. Moreover, as things got worse, people became more united and less selfish. Most other participants often talked about selfishness in the following manner:

Extract 3

R: Everybody was helpful.

P: Oh, yes.

R: Was, uh, was there any case of not helping uh, not being united or something, not showing the community spirit?

P: Not that we were aware of. I mean, everybody was helping out. (P11-40-F-D)

Generally speaking, almost no participant except the one above (P4) voluntarily reported cases of selfish behaviour. Moreover, when they were asked about selfishness, they could hardly think of any examples of it. Therefore, it seemed there was very little selfish behaviour if not none among the residents during the flood. The more widely reported behaviour was helping.

5.5.3 Helping behaviour

In general, on reporting helping behaviour, participants often said something like “everybody was helping out”, like the general shared identity discussed in the earthquake study. However, when taking a closer look at the content of helping behaviours, there seemed to be two types of help that were reported: practical help and expressions of help.

5.5.3.1 Practical help

Firstly, for those who were flooded, some of them claimed that while people were supportive in general, there was no practical help from the others.

Extract 4

P: They behaved like, yeah, they were friendly and supportive. But, no practical help, no practical help. (P10-40-F-D)

Here this flooded participant clearly pointed out that people in the village were “friendly and supportive”, but they did not provide “practical help”. By practical help, she meant help that could practically stop the water from entering her house. Another participant gave a more detailed explanation of “practical help”:

Extract 5

P: But really there was a limit to what most people could do. The demanding was the moving of sandbags. And I needed a certain physical strength. Exactly. You know, and but the the council were very good as well. The the um, what we call the county council. So they're they're government employees work for the local area. So they're they're employed by the local local government. So they they they were very good as well. Uh, and they really makes. Local government employees often have a very negative opinion that it's, you know, they don't work very hard and they they they have an easy job. But in that time of crisis, we found them to be fantastic. They they did like above and beyond in terms of support. (P4-40-M-D)

This participant explained that the most needed help was “the moving of sandbags” and it was provided by the county council. Though not mentioned in this particular extract, many participants, including this one, also pointed out that another important demand was pumps, which were also provided by the local government. The local government had worked “fantastically” in flood mitigation, despite that they normally had a reputation for not working hard enough. One practical reason that the local council played a vital role in dealing with the flood was that they got hold of the vital equipment, i.e., pumps, without which there was no way one could stop the water from entering the house. As the local police officer said at some point:

Extract 6

“As I say, our function is very limited really. Hope we can do more, but we don't have the equipment to deal with it” (P16-30-M-N).

Although the local police hoped to “do more”, but they could not because they did not have the equipment. Anyway, during the flood, one important source of practical help

was from the local council, who could provide pumps. Apart from the local council, practical help also came from friends and neighbours.

Extract 7

R: So what about people? You you are kind of affected by the flood. There are other parts of the village are not affected at all. So what about people there? Will they?

P: Some of them helped out.

R: Uh, like your friends or?

P: Yeah, my friends did. Yeah, yeah, yeah, and some of the neighbours.

R: So mostly your neighbours and friends will be there.

P: Yeah, yeah, exactly. Yeah. (P10-40-F-D)

At the beginning of this conversation, I was asking whether people who were not flooded would come to help those who were flooded. At this point, many participants would give a general positive response like this participant – “some of them helped out”. However, this did not mean that help was unconditional, that there was help among strangers, rather, help mostly came from neighbours and friends. There were no accounts about help between strangers except for the following extract. However, the participant was actually talking about *no help* from strangers: she thought the young people from the local clubs should help her and others move sandbags but they did not.

Extract 8

R: They, were they in the village?

P: Well, they're just a mile outside and they get funding from us. You know, there're there're there're fund raise and we kind of support them. So they there was they didn't support us then, which was bad.

R: Were they local or just.

P: Yeah, yeah.

R: And they're not helping. Did you ask them to help?

P: No, no, no, but there was no volunteering from clubs. Clubs are, do you know what I mean by clubs? Hurling club, rugby club.

R: They were supposed to help more.

P: Yeah, give that. Yeah, because we're giving them money through collections and fundraisers. Yeah.

R: But they didn't help.

P: No.

R: So it was oh, almost done by you and your neighbours, friends.

P: Yeah, Exactly. Yeah. (P10-40-F-D)

Although this was the only piece of conversation talking about help from strangers/fellow (young) villagers, it has provided an interesting account of the mismatch between expected help and received help. The participant expected the young people in local clubs to help her and others to move sandbags, but they did not. She thought these young people should at least “volunteer” to help, as a reciprocal favour since they received money from the local residents. Even though the participant did not reason as “the young lads should help us because it was an emergency”, as suggested by the social identity theory, this extract has shown that mutual help was primarily done by neighbours and friends. This pattern was different from that in the earthquake. However, this did not mean that the villagers were indifferent and did not care about each other. Instead of giving practical help, most people had offered oral help to those who were in trouble.

5.5.3.2 Offers of help

While those who were flooded primarily got practical help from the local council, friends, and neighbours, they also got many oral offers of help by their fellow villagers:

Extract 9

P: So but I mean you would get all the people that will meet you at the at the shop or in the pub or say if there's anything I can do to help you or you know, so people were very considerate. (P4-40-M-D)

As this flooded participant put, people were not indifferent, instead, they were “considerate” and asked him if there was anything they could do to help. This was also confirmed by people who were not directly affected:

Extract 10

P: If there was needed for us to go and rescue people in the village then we would be there for that too, absolutely. Ok. So if there is need you we would definitely help help you. So yeah, we don't just stay up, enjoy life and forget them. (P15-40-F-N)

As a supplement to extract 9, this unflooded participant reported her willingness to help as well. In addition, she also implied that those who were not flooded were connected with the flooded – they would not “forget them”. Although these oral expressions of help were not as practical as building a sandbag wall or launching a pump, they were valuable as a way of emotional support:

Extract 11

P: So there was a lot of talk from the neighbours and the community. There was a lot of, um, you know saying, “Isn't it awful?” And “I'm sorry for you” and all that. My experience wasn't, that there wasn't a lot of practical help, really, because the council were doing what they need to do and the army were out. And the politicians were around. So there is really basically were.

R: So so do you think there's nothing actually they... there was nothing they can do or, they were just trying to comfort you in words?

P: That's it. Comfort. Exactly. That's precisely as comfort you.

R: So you think, um, so this two groups are friendly to each other?

P: Yeah, oh, yeah, oh, yeah,

R: It's just no practical help.

P: Yeah. (P10-40-F-D)

This participant explained that the fact was there was not much practical help others could provide, as the local council and the army had done most of the job. Then the

participant agreed with me in defining offers of help as comfort, which in psychological terms, referred to emotional support. When asked whether people who were flooded and those who were not were friendly to each other, the participant said “yeah” three times for a strong confirmative answer. Her tone sounded a little bit surprised, probably because she never thought that would be a question, that the unflooded would be unfriendly to the flooded. This has shown that people in the village were connected with each other, regardless of their situation in terms of being directly flooded or not. This also echoed the previous analysis about the general sense of community spirit. However, whether this connection between a sense of unity and help was as confirmative as that in the earthquake study remained questionable, as there might be a confound of pre-existing unity, one of my research foci in the present study.

5.5.4 Pre-existing unity

The village had a reputation of being community oriented. The city councilor (P14) commented that this village “is a very active community, in terms of their community involvement or community groups”, and that it “has a very good reputation for looking after itself”. Many other participants had acknowledged this feature as well, for example:

Extract 12

P: We generally would be good neighbors. I think we're probably better neighbors. And some other countries I visited, where you'd be in a house, and and you never talk to the people next door. Here's totally different. You know, we've all grown up. And if I have a problem, I know I can knock a neighbor's door and say, can you help me or something? You know. If I need a lift somewhere on my cars and I get a lift, and and and I do the same for them. So that happened. People are sympathetic. (P5-40-M-D)

This participant had grown up in the village and he thought that people in the village were generally “good neighbors” and were willing to help others. There was a strong sense of trust between people – the participant thought he could just knock on a neighbor’s door to ask for help. More importantly, this sense of trust was mutual – not only did the participant knew he would receive help when he needed it, he was also happy to do the same for the others. In this sense, since people were helpful before the flood, it was possible that help during the flood, whether practical or oral, was an extension of this

general sense of help. Another participant's account has provided some insight into understanding the relationship between these two types of help:

Extract 13

R: So, no matter they're they're affected by the floods or not, they will come to help.

P: Yeah, it doesn't matter. Yeah, so there are, Irish people by their nature are good to help.

R: Yeah, so think the reason for that is because people were just like that.

P: Yeah, just like, it's in their nature. It's in our nature. That's why we send lots of aid workers all over the world, because it's in our nature. In all major crisis around the world that are Irish people, yes, because it's in our nature, help each other. (P8-50-M-D)

At the beginning of this extract, we were talking about help between the flooded and the unflooded, and again, this participant thought that people were helpful to each other no matter they were flooded or not. Then this participant attributed helping to the quality of Irish people. He believed that Irish people were by their nature good to help, therefore, no matter people were in a flood or not, they helped each other anyway. Although this was the only participant who thought it was Irish people's nature that underpinned the helping behaviours, his account has implied a possible psychological process that, if people were united and good to help in the first place, they would naturally help each other during the flood.

Combining these two extracts, it seemed help during the flood was strongly associated with this pre-existing community spirit. In this sense, while helping behaviour or intention during the flood was linked with emergent shared identity, it has also reflected this pre-existed shared identity, whether it was a general sense of shared local identity or an Irish identity. Therefore, helping behaviour might be a consequence of both emergent shared identity and pre-existing unity.

5.5.5 Long-term effects of shared identity

While the emergent shared identity had resulted in a friendlier and more harmonic relationship between people in Yingxiu, the shared identity between people in this village did not seem to have changed much on people's relationship:

Extract 14

R: So do you think the flood have uh, changed people's relationships, change the nature of the community in any way?

P: Not really, because it was always there in the first place. I think you know what, what's, well, they they're looking after your neighbours and helping out your neighbours. That's that's what a community is. You know, so I know I don't think it's changed it. (P18-40-F-N)

This participant thought that people were united and helpful in the first place, and that “it was always” there, so the flood had not changed this fact. In addition, the participant believed that being helpful or supportive was an important feature of a community (“that’s what a community is”). While basically holding the same point of view, another participant said there might be some changes:

Extract 15

P: So again, the immediate community would be walk to me, [inaudible] you know, and everyone was around about saying what what do you need. That's always the case, no matter what it is.

R: So people, people were like that before the flood.

P: Yeah, and it's natural.

R: And does the flood changed people's relationship?

P: I don't think so. I don't think so. I mean, obviously you might have got closer to some people who who particularly you would have thought, who particularly helped or you say I didn't expect them to come in but they did. You know, so that that's that's influence things. So yeah, some people you would you would naturally uh, rely on and and vice versa. Others come in and said, look, what you want. And there was no, there was nobody ever saying no, not a chance, you know (P5-40-M-D).

Again, this participant has reported a similar point that it was “always the case” that people cared and helped each other. He thought that it was a “natural” thing. Then he said that the flood did not change people’s relationship, but the fact that he was helped by unexpected people might “influence things”. But in general, people were helpful and there

was “not a chance” that a request for help would be rejected by others. In a word, in terms of people’s relationship, the flood had not changed much on it. People were helpful before the flood, during the flood, and after the flood.

5.5.6 The trajectory of shared identity

Unlike the earthquake case, the shared identity processes in this study were not complicated – it had no subtypes and it faded away quickly.

Extract 16

R: Yeah, so uh, during the uh, during the flood did they kind of behave differently, like you mentioned that people kind of support each other.

P: Oh, yeah, yeah. They they did like, yeah, that was like kind of in the immediate aftermath of the event but [unclear] weeks after, no.

R: So there's that and um, like, yeah, during the emergency, people will will be more involved.

P: Yeah, but after that when it's when it's when it's everything subsides and go back to normal. People go back to normal daily lives and that, you know. (P16-30-M-N)

This participant said that people were more willing to help each other “in the immediate aftermath” of the flood, but it was gone after a few weeks, when the flood water subsided. This response was typical among participants. Another participant outlined a more detailed explanation for it:

Extract 17

R: When the emergency has passed, people have no obligation to to help you, like during during the...

P: Un, unless It's visible when It's visible. It's in your mind when, it's in this, like when you've got four foot of water, you see it. When the water goes, you assume the emergency is over. (P13-40-M-N)

This participant explained that people would assume the emergency was over if they could not see the flood water, and this made people's willingness and readiness to help go back to its base level, i.e., "go back to normal".

There were no accounts of different subtypes of shared identity, and the general sense of unity seemed to be the only form of it. Shared identity emerged when the flood became worse, it lasted for a few weeks, and it was gone when the flood water subsided.

5.6 Discussion

In this study, we have explored the research questions in a flood setting in an Irish village. The results have showed that there was shared identity among the villagers during the flood, and that it was caused by a sense of common fate. In addition, shared identity was closely linked with helping behaviour, or more precisely, helping intentions. These were confirmed by both people who were directly flooded and those who were not. The results echoed Ntontis et al.'s research published in 2020, where they also found that shared identity emerged in a flood in York and that it promoted solidary behaviours (Ntontis et al., 2020). The results also fit into the social identity model of collective behaviours in emergencies and disasters, as summarized by Drury (2018).

In terms of the antecedent of shared identity, one interesting finding was that, apart from common fate, it seemed the severity of flood had also played a role in triggering shared identity – when the flood began and things were not serious, people seemed to be more inclined to take care of themselves; however, when things became more severe, people became more community oriented. One possible explanation of this was that when the flood was not very bad, it was not considered as a collective event at all, so there was no basis for the emergent social identity processes. This finding echoed Drury and colleagues' work (2016) on the Chile earthquake, where they found that disaster exposure predicted common fate, and was positively correlated with provided emotional social support, collective efficacy, and coordinated social support. While disaster exposure was conceptually different from severity of disaster, they were similar in a way that they probably both could increase perceived danger so that they could have a similar effect on shared identity processes, which has not been explored before.

Another interesting finding of the present study was that people who were flooded actually did not receive much practical help from others. However, this does not mean

shared identity was not associated with helping behaviours, which undermines the validity of the social identity model. Rather, this low level of practical support was caused by the fact that there was not much people could do to help those who were flooded. The two most important things the victims needed were sandbags and pumps, both of which were provided and installed by the local council and the army. Also, people primarily got help from neighbours and friends. Therefore, there was a limit of what fellow villagers could do to help the flooded. What most people did was offering help. These offers of help functioned as emotional support and could comfort the victims. According to Drury and colleagues (2016), one of shared identity's consequences was provided emotional support, henceforth, the primary consequence of shared identity in the present study seemed to be offerings of help. Widespread offerings of help were sometimes mixed with actual help – many participants said something like “everyone helped out”, even though it seemed “everyone” was offering help, instead of providing practical help. According to Drury (2018), these offerings of help (emotional support) could create trust between the villagers and were therefore linked with stronger collective efficacy. One practical implication of this finding was that, in future research, when helping behaviour is studied in association with shared identity, researchers must take into consideration of whether people had options to help practically; otherwise, offerings of help (or probably willingness to help) could be a better indicator of help.

One aim of the present study was to explore whether pre-existing unity would influence shared identity and how. Much evidence has shown that the village was community oriented before the flood. When participants described it, they often linked it with readiness to help. They thought that people in the village were good to help in general, and that this was an important feature of their community spirit (“that’s what a community is”, see Extract 14). This readiness to help seemed to overlap with offerings of help – people were willing to help when needed, whether there was a flood or not. Therefore, while helping behaviour or intention was connected with emergent shared identity, it was also closely linked with pre-existing community spirit. In this sense, the link between shared identity and helping behaviour seemed to be weakened by pre-existing unity. However, pre-existing unity did not seem to undermine shared identity or even mute the shared identity processes, as participants thought they were “more united” (see Extract 2) when the flood hit the village. This extra unity was conceptually the emergent shared identity. To my knowledge, there was no research investigating the role of pre-existing unity in the social identity processes. The present study has provided some preliminary

results about their relationship, however, it should be studied more systematically in future research.

In terms of the relationship between this existing unity and shared identity, it should be clarified that it was difficult to tell whether shared identity was an amplification of the existing unity. As some participants put it, they became “more united” during the flood, which sounded like an extension of their existing unity. This was also found in Nepal that survivors of an earthquake had shown greater community identification if their disaster experience was more severe (Muldoon et al., 2017). However, this did not imply that shared identity was merely an amplification of existing unity as it was shown that in the first study, where participants did not have pre-existing unity also reported great sense of shared identity. This complexion might be caused by the similarity of the two different social categories: a shared community identity included people in the community, whereas a shared identity derived from an emergency also included people in the community, if the emergency had influenced most people. Therefore, the overlap between the content of these two identities had possibly played a role in this myth.

Unlike the earthquake study where people became more united after the disaster, participants in the present study did not report too much of a change in the villagers’ relationship after the flood. Participants reported that people were helpful and community oriented before, during, and after the flood, and the flood did not seem to have changed anything. The reason for this might be pre-existing unity – people were already very united and helpful before the flood, so it could hardly make people more united. In another word, the baseline unity was probably too high to be further increased. While in the earthquake study, there might be much more room for improvement in people’s relationship since they were not united before the disaster.

The trajectory of shared identity was straightforward in the present study. Shared identity emerged when the flood began to get severer, and it disappeared when the flood water subsided. The duration of it was about a few weeks. No subtypes of shared identity were reported. The simplicity of its history was probably because the flood was not very severe: there were few secondary stressors or troubles for most people, except for a few of those whose houses were badly damaged by the flood water. As a consequence, people assumed the emergency was over when the flood water was gone. Since the shared identity process was by its nature a phenomenon of an emergency, it would naturally

disappear when there was no sense of emergency. Therefore, the mere fact that the flood was not very severe might be the reason for this simple and short history of shared identity.

In terms of the positionality issues, I thought it was both beneficial and problematic. It was beneficial because people (especially the elder) would treat me as a child or a young man so that some of them were exceedingly helpful (e.g., picking me up by car, showing me around the village, and sharing files and photos with me), which greatly promoted the efficiency of data collection. However, since I was a foreigner, many participants seemed to be inclined to impress me by speaking highly of their community or even their country. This could potentially influence my data as I was focusing on community spirit. However, it was difficult to tell if this influence would be significant because the village was indeed renowned for its community spirit, so that the participants were not making it up. In the worst case where the unity reported by the participants were exaggerated, it seemed to have merely changed the baseline level of community spirit instead of the characteristics of it. For example, it still remained true that when things got worse, people became more united. Therefore, while the positionality issue had raised some concerns, it was unlikely that it would change the results significantly.

While this study has successfully answered my research questions in a flood setting, and provided some assumptions for future research, it had certain limitations. The first limitation was similar to that in the earthquake study: the data was retrospective and might involve memory bias. Secondly, some participants might have exaggerated people's willingness to help to impress me, a Chinese student who tried to investigate unity in their village. For example, as quoted in Extract 13, one participant attributed help to an Irish quality. This might be influenced by social desirability intentions. Thirdly, there might be an issue of selectivity, as those who came forward to be interviewed might be a biased sample of the whole community. The participants were recruited via the snowballing technique, so there might be a chance that those who were introduced to me were systematically different from other people, such as being friendlier and more helpful to strangers. Despite these limitations, a field study about a traumatic experience was difficult. The best way to deal with these limitations was to treat the data with caution – instead of treating the results as concrete evidence for the social identity model, I would prefer to consider them as preliminary and exploratory findings, which should be systematically explored in more controlled social experiments.

6 SUMMARY OF STUDY 1 & STUDY 2

In this chapter, I would like to summarize and compare the findings of the two field studies, and then identify some important factors that I wanted to examine in experiments.

In the earthquake study, it was found that: (1) there was evidence of the social identity processes; (2) in the emergent phase, shared identity was strong and involved both the civilians and the local authorities; (3) two subtypes of shared identity, i.e., the civilians' shared identity and the parents' shared identity, emerged in the second phase, and their common outgroup was the local authorities; (4) national shared identity seemed to be elicited via a bottom-up process, where it emerged when people received help from outside forces; (5) in the third phase, the relationship between the civilians and the local authorities was still negative, but in a mild way; (6) shared identity stayed for at least a year until people moved out of town and were not in the same place anymore; (7) share identity enhanced a general sense of unity among the civilians in the long run.

In the flood study, it was found that: (1) there was evidence of the shared identity processes; (2) while help was an important feature of shared identity, orally offering help was more widespread than practical help; (3) pre-existing unity partially accounted for the helping behaviours during the flood, seemingly to have weakened the link between shared identity and help; (4) the history of shared identity was relatively short – it disappeared when the flood water subsided; (5) shared identity did not have much influence on people's relationship or unity.

Comparing the findings of these two studies, I suggest the following thoughts.

Firstly, both studies have shown that the shared identity model was useful in explaining solidary behaviours in these two different disasters. However, the textures of the shared identity processes in these two studies were distinctive from each other. One obvious difference between these two shared identity processes was the strength and length of shared identity. It seemed shared identity was stronger in the earthquake study

than in the flood study. For example, participants in the earthquake study often mentioned unity without being prompted, and they thought unity was the leading feature of the group behaviour during the disaster; however, in the flood study, participants were more likely to emphasize the importance of the local council who provided practical help and worked well in flood mitigation. The duration of shared identity was reported much longer (at least a year) in the earthquake study than that (a few weeks) in the flood study. There could be a few possible explanations for these differences, as the two studies were not designed to be matched in many ways. However, it was plausible to conjecture that the difference between the severity of the two disasters had played a role in this. One evidence came from an account in the flood study (Extract 2) saying that people were not united until the water rose, and things began to look worse. Following this logic, it could be cautiously inferred that, if the flood turned out to be a false alarm, where the flood water did not rise eventually, people might not become united at all; if the flood had ruined every villager's house like the earthquake did, and people were consequently displaced and needed years to recover, people might be more united during the disaster. Therefore, it was hypothesized that the severity of disaster might influence the level of shared identity, where the severer the disaster, the stronger the shared identity. So far, not much research has addressed this issue yet, except one study that provided some preliminary evidence for this association: researchers found that exposure to disaster was positively related to shared identity and social support (Drury et al., 2016). This result came from a survey study about the 2010 Chile Earthquake. Despite its usefulness, the study was a cross-sectional survey study so it could not provide confirmative causal evidence. Therefore, a more careful and systematic examination of this factor is needed.

The second factor I wanted to further explore was pre-existing unity. In study 1, the relationship between the civilians before the earthquake was either neutral or negative, as the participants reported. Therefore, shared identity and helping behaviour were not influenced by pre-existing relationship among the residents. In study 2, however, people in the village were exceptionally community oriented before the flood. The villagers were willing to help others in general, whether there was a flood or not. It seemed that, in terms of helping behaviour during the flood, shared identity and pre-existing unity were both associated with it. It was impossible to tell from a qualitative study about to what extent helping behaviour was caused by shared identity and to what extent it was caused by pre-existing unity. Therefore, it is worthwhile to explore this in an experiment. It seemed is that, if there is no pre-existing unity, shared identity will account for much of the helping

behaviour; if there is pre-existing unity, the link between shared identity and helping behaviour will be weakened. However, whether there was a direct influence of pre-existing unity on shared identity was not clear, because there were no accounts about it. A possible conjecture was that pre-existing unity might enhance the overall unity during a disaster, because people already knew that they could trust other members in the community.

The third factor I would like to explore was observed help. As discussed in the national identity section in the earthquake study, national shared identity seemed to emerge via a bottom-up process, that was, it appeared when people received help from the central government, the army, and the volunteers, etc. While the formation of shared identity was via a top-town process, where people had a sense of common fate, and then they had shared identity, it might be influenced from a bottom-up process as well. In the flood study, although there were not many accounts about observed help as most practical help was provided by the local council, there was one interesting account from the city councilor:

Extract 1

P: And I think that very much came to show um, during the floods itself, you can kind of contrast that was at the same time flooding was happening in parts of the city. And there was very little local involvement um, from people in the city, compared to [village name].

.....

R: So what it's like in the cities, how people, why do you say that there are no actions in the city?

P: There just wasn't that level of involvement. Um, most of it was just local authority with no community support. So it would have been the local authority would have had to distribute sandbags to each of the houses, because people wouldn't even put sandbags outside their own houses. (P14-20-M-N in study 2)

The city councilor said that in some parts of the city, there was very little community involvement, to the extent that some people would not even take care of their own properties (building sandbag walls outside their houses). It seemed reasonable to

conjecture that there was little sense of shared identity among the residents in those areas. If this was true, then it seemed the top-down process of shared identity formation did not function properly – those people were all in the flood together as well, however, it seemed there was no shared identity among them. Observed unity might have played a role in this – people did not observe any community involvement so they decided not to be involved as well, which formed a vicious cycle. In this sense, it seemed observed unity could be an important factor that influenced shared identity. While there was not much research about observed unity, observed help was studied in Drury and colleagues' (2016) study of the 2010 Chile Earthquake, where it was treated as factor that worked parallelly with shared identity. They found that observed help promoted social support, however, how it influenced shared identity was not explored. Therefore, I would like to explore this factor in experiments.

The fourth factor I wanted to examine was straightforward: time. Since one of my research aim was to investigate the trajectory of shared identity, I would like to test the short-term and long-term consequences of shared identity in an experiment, which has not been studied before. In both studies, there were abundant accounts showing that helping behaviour was widespread in the immediate vicinity of the disaster; however, when shared identity disappeared over time, there were less accounts of mutual help. Therefore, it seemed natural to conjecture that the further the time from a disaster, the less sense of shared identity, and henceforth the less help. However, this declining process could be influenced by the strength of shared identity. To be specific, in the earthquake study, shared identity during the flood seemed to have increased people's overall sense of unity in the long run, and people were more likely to help each other after the disaster; in the flood study, however, participants reported that they seemed to be equally likely to help each other before and after the flood. It seemed a stronger sense of unity as in the earthquake study could have resulted in more general mutual help in the long run, whereas a less strong sense of unity as in the flood study did not increase people's overall helping intentions. Again, due to the fact that these two studies were not matched to compare just one factor, there might be other explanations for it. For example, shared identity did not increase future help in the flood study might be caused by the fact that the villagers already had high levels of community spirit so there was no room for any increasement. Despite this, since the short-term and long-term consequences of shared identity was not studied in experiments in previous research, it was meaningful and useful to explore them in experiments.

It is worth noting that, while temporality seemed to underpin all the changes that happened over a period of time, there might be confounds that might also be accountable for the changes. For example, perceived threat might be influencing shared identity and helping behaviour – it was possible that perceived threat was stronger in the immediate vicinity of the disaster so that people would be more inclined to act collectively to deal with the threat. In order to control this confound, the tasks that were meant to test helping behaviours were flood irrelevant. In another word, these tasks were designed to tap into people's general inclination to help, rather than specific helping behaviours that were directly related to threat or urgency to help.

To summarize, there were four factors that I wanted to examine: severity of disaster, pre-existing unity, observed unity, and time. These factors might have interactions between each other, however, it was impossible to test all the combinations of the possible interactions within my PhD study. Therefore, I would like to conduct two experiments that were conceptually more likely to have interactions, according to the findings in the two field studies. In the first experiment, severity of disaster and pre-existing unity were tested. As discussed above, it seemed pre-existing unity might undermine the relationship between shared identity and helping behaviour, while the severity of the disaster could increase shared identity; therefore, an interaction was expected between these two factors: it was hypothesized that there was a pathway of “severity of disaster – shared identity – help”, however, this pathway was only possible when there was no pre-existing unity. In the second experiment, severity of disaster and pre-existing unity were held constant, while observed unity and time were studied. I proposed that there was an interaction between observed unity and time on shared identity, that was, when the disaster was close, shared identity remained at the same level, whereas when the disaster was far away, the more observed unity, the higher shared identity. Again, shared identity was considered to positively linked with helping behaviour.

In the next two chapters, I will introduce the two experiments in more detail.

7 STUDY 3: THE INFLUENCE OF SEVERITY OF DISASTER AND PRE-EXISTING UNITY ON SOCIAL IDENTITY

7.1 Introduction

The present study sought to explore the influence of pre-existing unity and severity of disaster on shared identity and helping behaviours. An experiment was designed to test the hypotheses, with pre-existing unity and severity of disaster manipulated, and shared identity and helping behaviours measured.

Since the factors were derived from the earthquake study and the flood study, I thought it was better that I adopted one of these two scenarios to maximize the validity of the experiment, as using other emergencies or disasters might involve generalizability issues. The flood scenario was chosen at last, due to the following considerations: (1) it was easier to simulate a flood than an earthquake because it seemed easier to imagine one's village or house being flooded with the help of the video; however, it was difficult to imagine an earthquake if one had not experienced it before; (2) Since the experiment was planned to take place in St Andrews, and most participants were expected to be UK and EU students, it made more sense to adopt a flood scenario because participants would be more familiar with it; (3) There was also one practical reason about video making – there were much more video footages of a flood than those of an earthquake. It was important to make the video consistent in terms of the environment, people, and video quality (e.g., resolution), so that participants would have more immersive experience. Therefore, the limited pool of earthquake video footages made it very difficult to make an immersive video. (4) While it was not impossible to design a severe earthquake and a mild one, it was not easy to make the story convincing. For example, if the earthquake magnitude was low, there might not be significant damage and people would just live on, which by its nature could not be considered as a disaster; however, if the video showed

houses falling and people dying, no matter what the actual numbers were, the disaster might be considered severe anyway. On the other hand, it was much easier to design a mild flood and a severe one since the severity of a flood was better granulated – for example, the water level could be an indicator of its severity. In a mild flood, the water might have just caused some disruptions in traffic, whereas in a severe flood, there could be water in the house, ruining furniture and walls.

Therefore, the disaster story would be based on a flood.

In terms of the conceptualization of key variables, pre-existing unity was defined as general communal connectedness – the extent to which people feel connected to each other in the community. Pre-existing unity had two levels: high and low, where in the high unity condition, people in the community knew each other well and were united; in the low unity condition, people did not know other residents well and were not very united. Severity of flood was defined as the damage caused by the flood, and it had two levels: severe and mild, where in the severe condition, participants' houses were flooded and damaged, and the flood stayed longer; in the mild condition, the flood did not affect people's houses and it subsided quickly. Therefore, the experiment was a 2×2 between-subjects design. Prosocial behaviour during the flood was defined as the behaviour that helped the community on the whole but could cause certain level of personal sacrifice. This variable was comprised of four tasks, and they will be introduced in the method section.

The theoretical model for the present study was a moderated mediation model (see Figure 7.1):

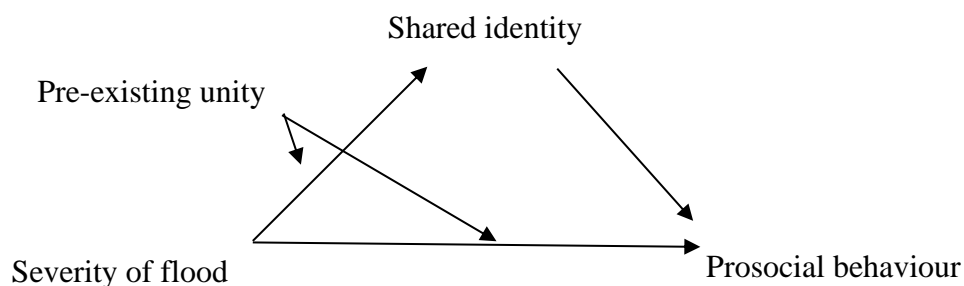


Figure 7.1 The proposed model of the present study

The hypotheses are as follows:

(1) Severity of flood has a main effect on shared identity and prosocial behaviour, where shared identity and prosocial behaviour in the severe condition is higher than that in the mild condition.

(2) Shared identity mediated the relationship between severity of flood and prosocial behaviour.

(3) The mediation effect of shared identity is moderated by pre-existing unity, where this effect is stronger in the high unity condition than that in the low unity condition.

The main ethical concern for the present study was that of the experiment manipulations, where participants were asked to imagine themselves experiencing a flood, which might cause uncomfortable or even traumatic experience for the participants. Protocols to deal with this concern were: (1) participants were fully informed of the content and procedure of the experiment and have given full consent before participation; (2) they were informed that they had the right to omit any questions or withdraw from the study at any time without giving any explanations; (3) while the experiment involved manipulating a mild and a severe flood, however, even in the severe condition, the scenario “only” involved damage to public places (e.g., roads and parks) and their imaginary houses, and nobody got injured or killed in the process; (4) only those who had not experienced a flood before were allowed to participate so that the simulation would not invoke traumatic memories; (5) in the worst case where the participants got psychologically stressed or traumatized due to the experiment, they would be transferred to mental health services provided by the university.

7.2 Method

7.2.1 Participants

Participants were mostly students in St Andrews, and most of them were recruited on the University participant recruit system. Participants met the recruitment criteria if they were aged 18 and above and had not experienced a flood before. The experiment ended up with 128 participants, 32 people in each condition. There were 104 (81.3%) female participants, 22 (17.2%) male participants, 1 participant who was non-binary and 1 participant who did not report. Participants were aged between 18 and 56 ($M=21.77$, $SD=4.62$). There were 28 different nationalities. Ninety-three (72.7%) participants were European and twenty-nine (22.7%) participants were Asian. Ninety-seven (75.8%)

participants were undergraduate students, twenty (15.6%) were Master students, and eight (6.3%) are PhD students. One hundred and twenty (93.8%) participants were not married.

Screening process. Since the experiment involved helping tasks, the Social Desirability Scale (Williams & Reynolds, 1982) was introduced to statistically eliminate the influence of participants' prosocial inclination in experiments. The scale was used for screening and also as a covariate to increase the validity of the results. Seven participants who scored two standard deviations away in the Social Desirability Scale ($M=6.21$, $SD=2.72$), i.e., those who scored 0, 12, and 13 were considered outliers and excluded from the analysis. Therefore, the final number of participants in the following analysis is 121.

Missing values. There were two missing values for the rice task, and they were replaced by the means of their group.

7.2.2 Measures and materials

Social Desirability Scale. The scale is consisted of 13 items, with statements that are either socially desired or not. Participants rated the items as "True" or "False". Responses with a social desirability tendency will be coded as 1, otherwise, it will be coded as 0. For example, for item 13 "*I have never deliberately said something that hurt someone's feelings*", if participants answered "True" to this item, their answer is coded as 1; if they answered "False", it is coded as 0. Sum of their scores is the Social Desirability Score ($M=6.16$, $SD=2.36$), where higher scores indicate higher social desirability tendency.

Moral Identity Scale. The scale consisted of 5 items, measuring people's self-regulatory mechanism that motivates moral action (Aquino & Reed, 2002). The Moral Identity Scale was introduced for the same reason as the Social Desirability Scale, that was to eliminate potential variables that might influence helping behaviour. While the Social Desirability Scale was primarily used to control cheating intentions, the Moral Identity Scale emphasized the influence of personal trait. Nine words (caring, kind, fair, friendly, generous, hardworking, helpful, honest, compassionate) were displayed and participants needed to respond to what extent do they endorse these characteristics on a 5-point Likert scale, e.g., "*It would make me feel good to be a person who has these characteristics*". Higher their scores indicate

stronger moral identity ($M=4.60$, $SD=0.42$, $\alpha=0.75$). The SDS and the present scale were conceptually considered as covariates of the model.

Measure of shared identity. Shared identity is measured via the **Inclusion of Ingroup in the Self Scale**, where there are multiple sets of two circles, labelled “self” and “community”, and the two circles overlap at 7 different levels, from non-overlapping to roughly 90% overlapping. Participants were asked to choose one picture best representing their own level of identification with the community. The more the two circles overlap, the higher the score, and henceforth the stronger the shared identity ($M=4.46$, $SD=1.30$).

Manipulations. The independent variables were manipulated via videos (see Appendix 3 for the text of the videos). There were four video clips according to the four experimental conditions (see Appendix 3 for the links of the videos). In the severe flood condition, the flood water has ruined participants’ houses, the whole community is at risk, and the situation is likely to become worse in the future. In the mild flood condition, the flood water is shallow and does not enter people’s houses, and the flood is expected to be gone very soon. Two items (5-point Likert scale) were administered for manipulation check, i.e., “*How severe do you think the flood is?*”, and “*How threatening do you think the flood is?*”. The higher the score, the more severe/threatening the flood ($M=3.54$, $SD=1.04$, $\alpha=0.92$).

In the unity condition, the residents are described as community oriented, and they have a lot of interaction with each other. In the no-unity condition, the residents are described as polite and nice, but hardly interact with neighbors or strangers. Two items (5-point Likert scale) were administered for manipulation check, i.e., “*How community-oriented do you think Rivertown is?*”, “*How close do you think you are to other people in the village?*”. The higher the score, the more severe/threatening the flood ($M=2.90$, $SD=1.45$, $\alpha=0.92$). The videos were to match the text as much as possible. Text is read and subtitles are given to facilitate understanding. After the manipulations, the video was left on with rain sounds to keep participants in the raining/flooding scenario.

Measures of prosocial behaviour. Four social dilemma tasks were designed to measure prosocial behaviour. The logic behind the four tasks was that supporting the community could entail a certain level of personal sacrifice. Therefore,

participants need to find a balance between being supportive and taking care of themselves during the disaster (see Appendix 4 for the text for the tasks).

(1) Task one. Participants were instructed that water system was damaged so that they needed to get water from a water truck that comes every day. The water truck provided limited water so that people should voluntarily get as little water as possible. They were told that 2L of water per day was the minimal amount that they needed and that 20L of water per day was their average level of daily water consumption, however, the water truck did not have enough water for everyone to take 20L of water. Participants needed to decide the amount of water they would like to take, using two plastic jars to get water from a water dispenser. Each full jar of water was considered 10L and was scaled accordingly. The water participants took was measured in liters ($M=7.50$, $SD=3.92$).

(2) Task two. Participants were instructed that some people in the community were starving and the community center encouraged people to donate food. Participants had 2kg of rice, which could last for a few days. They were told that the minimal amount of rice they needed was 200g. Then participants would decide whether they would like to donate any rice, and if they would, how much would they donate (pouring their rice into the empty donation box). The amount of rice participants donated was collected in grams ($M=1041.82$, $SD=488.39$).

(3) Task three. Participants were instructed that some people in the community were cold because their houses were wet, and they needed blankets to keep themselves warm. They were told that they had 4 blankets and that having four would keep them warm, three would make them slightly cold, two would make them cold, one would make them very cold and none at all would cause health risks. Then participants need to decide whether they would like to donate some of their blankets, and if they would, how many blankets would they donate (they needed to put handkerchiefs, representing the blankets, into the donation box). The number of handkerchiefs participants donated was collected ($M=1.26$, $SD=0.67$).

(4) Task four. Participants were instructed that the flood water washed up leaves and garbage on the street, blocking the drainage system. The community center encouraged people to volunteer cleaning the streets. Participants were told that they were free during the weekend, and they were asked whether they would

like to volunteer cleaning the street, and if they would, how much time would they give. Participants were given a timetable where there were 10 slots (each slot took an hour) for each day of the weekend, and they needed to tick the slot(s) they preferred if they wanted to volunteer. The total number of slots was collected and was recorded in hours ($M=6.70$, $SD=3.73$).

The tasks were placed on desks, with their corresponding instructions (see Figure 7.2).



Figure 7.2 Photo of the tasks (from left to right, up to bottom, the photos represents task 1 to task 4)

7.2.3 Procedure

The experiment was carried out in the social immersion lab in the School of Psychology and Neuroscience at St Andrews. The lab was about 15 square meters (3x5), and was installed with a projector, where one of the walls was the projection screen to maximize visual immersion. There were also speakers around the room to maximize audio immersion.

The conditions were run sequentially in repeating sets of four conditions: unity & mild, unity & severe, no-unity & mild, and no-unity & severe condition. Since participants signed up randomly, they were considered as automatically randomized in

the experiment conditions. Participants were led into the lab and given the information sheets and consent forms. Then the researcher explained the procedure in detail and left the room, which meant the participants completed the experiment alone.

Participants complete the Social Desirability Scale and the Moral Identity Scale first, then they watched the video. After the video, the participants completed the four manipulation check items, and the measure of shared identity. Then the participants were asked to complete the tasks. Finally, the participants reported some demographic information (age, marriage, education, and nationality) on the answer sheet.

Once the participant finished the experiment, they would get out of the lab and inform the experimenter who waited in the next room. The participants were then debriefed, thanked, and reimbursed.

7.3 Results

7.3.1 Manipulation check

For the severity of flood manipulation, independent samples t-test showed that scores in the severe condition ($M=4.35$, $SD=0.48$) were significantly higher than that in the no-unity condition ($M=2.66$, $SD=0.72$), $t(98.01)=14.99$, $p<0.001$ (equal variance not assumed), *Cohen's d*=2.76, indicating that participants thought the flood was more severe in the severe condition.

For the Pre-existing unity manipulation, independent samples t-text showed that scores in the unity condition ($M=4.27$, $SD=0.50$) were significantly higher than that in the no-unity condition ($M=1.55$, $SD=0.49$), $t(119)=30.23$, $p<0.001$, *Cohen's d*=5.49, indicating that participants thought people were more community oriented in the unity condition.

7.3.2 Correlations

The following table (see Table 7.1) summarizes the correlations of all the variables. I use this table to figure out potential covariates for the next part of the analysis.

Table 7.1 Correlations of the variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1.Social Desirability	1	.270 [*]	-.102	.156	.133	-.226	.062	.213 [*]	.029	.056	.113	.027	.092
2.Moral Identity	.270 [*]	1	-.079	.047	.191 [*]	-.038	.224 [*]	.304 [*]	.066	.004	-.025	-.076	-.133
3.Community Manipulation	-.102	-.079	1	-.008	.296 [*]	-.03	.088	-.034	.146	.06	.153	-.087	.01
4.Flood Manipulation	.156	.047	-.008	1	.227 [*]	-.105	.203 [*]	.096	.177	-.073	.082	-.01	.023
5.Shared identity	.133	.191 [*]	.296 [*]	.227 [*]	1	-.210	.224 [*]	.189 [*]	.448 [*]	.012	.105	-.067	.077
6.Water	-.226	-.038	-.03	-.105	-.210	1	-.156	-.174	.068	-.161	-.049	-.186	-.135
7.Rice	.062	.224 [*]	.088	.203 [*]	.224 [*]	-.156	1	.311 [*]	.379 [*]	.05	-.102	-.045	0
8.Blanket	.213 [*]	.304 [*]	-.034	.096	.189 [*]	-.174	.311 [*]	1	.216 [*]	-.049	.174	-.004	-.007
9.Time	.029	.066	.146	.177	.448 [*]	.068	.379 [*]	.216 [*]	1	-.057	-.07	-.107	.085
10.Age	.056	.004	.06	-.073	.012	-.161	.05	-.049	-.057	1	.085	.441 [*]	.536 [*]
11.Gender	.113	-.025	.153	.082	.105	-.049	0.102	.174	-.07	.085	1	.173	.145
12.Marriage	.027	-.076	-.087	-.01	-.067	-.186	-.045	-.004	-.107	.441 [*]	.173	1	.388 [*]
13.Education	.092	-.133	.01	.023	.077	-.135	0	-.007	.085	.536 [*]	.145	.388 [*]	1
**. Correlation is significant at the 0.01 level (2-tailed).													
*. Correlation is significant at the 0.05 level (2-tailed).													

SDS and MI were positively correlated with many of the four behavioural tasks as expected, therefore, they were treated as covariates in the following analysis.

Age, gender, marriage, and education are not significantly correlated with any of the key variables except for one case: marriage is slightly correlated with water taking task ($r=-0.186$, $p=0.042$). Gender and nationality are not significantly correlated with any variables. Since there were only 4 participants who were married, the correlation between marriage and water taking task was not robust enough to be considered as a valid covariate. Therefore, marriage was not entered as a covariate in the model. For all the following analysis, if, however, marriage was entered as a covariate, it did not change the significance and direction of the results, anyway.

Test of moderated mediation model

Process macro (Hayes, 2016) was used to test the pathway model. Model 8 was used. X variable was severity of flood manipulation, and moderator (W variable) was pre-existing unity manipulation. Social desirability score and moral identity score were entered as covariates. Outcome variables were task measures and expected support. Number of bootstraps was set to 5000.

In the first part of the model, the main effects and interaction of the IVs on the mediator, i.e., shared identity, was tested. Flood severity manipulation had a significant main effect on shared identity, $B=1.016$, 95%CI= (0.418, 1.614), where shared identity in the severe condition ($M=4.75$, $SD=1.22$) was higher than that in the mild condition ($M=4.16$, $SD=1.34$). Community manipulation had a significant main effect on shared identity, $B=1.339$, 95%CI= (0.723, 1.956), indicating that shared identity in the unity condition ($M=4.85$, $SD=1.10$) was higher than that in the no-unity condition ($M=4.08$, $SD=1.38$). The interaction of the IVs has a significant influence on shared identity, $B=-0.970$, 95%CI= (-1.822, -0.119). In the no-community condition, shared identity in the severe flood condition ($M=4.59$, $SD=1.41$) was significantly higher than that in the mild flood condition ($M=3.52$, $SD=1.12$), whereas in the community condition, there was no significant difference of shared identity between the severe condition ($M=4.90$, $SD=0.98$) and the mild condition ($M=4.79$, $SD=1.25$).

In the second part of the model, the mediation role of shared identity on various outcome variables are tested.

(1) Water taken as the DV. There was no direct effect of severity manipulation on water taken, in neither the no-unity condition, $p=0.344$, 95%CI= (-1.053, 2.996), nor the unity condition, $p=0.162$, 95%CI= (-3.372, 0.570). The indirect index of moderated mediation was not significant, $B=0.649$, 95%CI= (-0.023, 1.602), indicating that there was not a difference between conditional indirect effects. In the no-unity condition, the indirect effect was significant, $B=-0.680$, 95%CI= (-1.483, -0.024), whereas in the unity condition, the indirect effect was not significant, $B=-0.031$, 95%CI= (-0.477, 0.388). The results suggest that shared identity fully mediated the relationship between severity of flood and water taken, however, such mediation was only significant in the no-unity condition, where in the severe condition, shared identity was higher than that in the mild condition, which leads to less water taken. A further regression was run using model 4 in the Process macro to identify the mediation in the no-unity condition. Therefore, only data in the no-unity condition was used. X variable was severity of flood, mediator was shared identity, Y variable was water taken, and SDS and SI were covariates. Results have shown that there were neither direct effect of X on Y, $B=0.758$, 95%CI= (-1.584, 3.101), nor indirect effect of X on Y, $B=-0.395$, 95%CI= (-1.211, 0.645). This seemed to have contradicted the previous result in the moderated mediation model. This could be caused by (1) insufficient data since I only included participants in the no-unity condition, and (2) the mediation effect was weak. Therefore, the water-taking task was not considered as a statistically valid indicator of help.

(2) Time donation as the DV. There is no direct effect of severity manipulation on time donation, in neither the no-unity condition, $p=0.525$, 95%CI= (-1.233, 2.404), nor the unity condition, $p=0.447$, 95%CI= (-1.088, 2.452). The indirect index of moderated mediation is significant, $B=-1.201$, 95%CI= (-2.653, -0.113), indicating that the difference between conditional indirect effects is significant. In the no-unity condition, the indirect effect is significant, $B=1.258$, 95%CI= (0.357, 2.351), whereas in the unity condition, the indirect effect is not significant, $B=0.057$, 95%CI= (-0.723, 0.741). The results suggest that shared identity fully mediates the relationship between severity of flood and time donation, however, such mediation is only significant in the no-unity condition, where in the severe condition, shared identity is higher than that in the mild condition, which leads to more time donated. A further regression was run using model 4 in the Process macro to identify the mediation in the no-unity condition. Therefore, only data in the no-unity condition

was used. X variable was severity of flood, mediator was shared identity, Y variable was time donation, and SDS and SI were covariates. Results have shown that there was no direct effect of X on Y, $B=0.438$, $95\%CI= (-1.671, 2.546)$, however there was a significant indirect effect of X on Y, $B=1.371$, $95\%CI= (0.293, 2.748)$, indicating that shared identity has fully mediated the relationship between severity of flood and time donation. Standardized coefficients of the paths are illustrated in the following figure (see Figure 7.3).

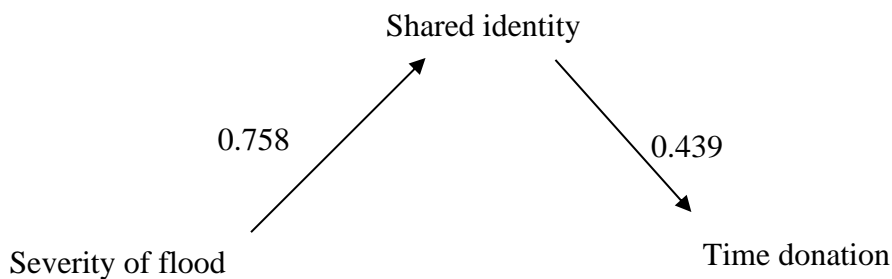


Figure 7.3 Standardized coefficients of the mediation model in the no-unity condition

(3) Rice, and blankets as the DVs. There are neither direct effects nor indirect effects found in these results. While the results were not statistically significant, the direction of the means of each condition met our expectation in the rice taking task (see table 7.2). Therefore, I averaged the Z scores of all the DVs except blanket task to improve the sensitivity of the analysis. The blanket task was left out because the means of it in each condition did not seem to fit the predicted directions and it was therefore excluded. Moreover, if the Z score of the blanket task was averaged in the compound indicator, it did not change the significance and direction of the following results.

Table 7.2 Mean and SD of the rice task and blanket task in each condition

Severity	Unity	Rice	Blanket
Mild	No community	886.41 (480.43)	1.28 (0.702)
	Community	996.34 (523.59)	1.10 (0.618)
Severe	No community	1105.44 (527.33)	1.28 (0.772)
	Community	1170.23 (365.44)	1.35 (0.551)

(4) Prosocial index as the DV. In order to test an overall index for prosocial behaviour in the water task, rice task, and time task, participants' score in each task is standardized, and these Z values are averaged (Z_{water} is multiplied by -1 because the less water taken, the more prosocial the participant was) as the prosocial behaviour index. The direct effect of severity manipulation on prosocial index was significant in neither the no-unity condition, $B=0.218$, 95%CI= (-0.730, 1.166), nor the unity condition, $B=0.902$, 95%CI= (-0.021, 1.825). The indirect index of moderated mediation is significant, $B=-0.588$, 95%CI= (-1.278, -0.057), indicating that the difference between conditional indirect effects is significant. In the no-unity condition, the indirect effect is significant, $B=0.616$, 95%CI= (0.180, 1.160), whereas in the unity condition, the indirect effect is not significant, $B=0.028$, 95%CI= (-0.328, 0.365). The results suggest that shared identity fully mediates the relationship between severity of flood and prosocial behaviour index, however, such mediation is only significant in the no-unity condition, where in the severe condition, shared identity is higher than that in the mild condition, which leads to more prosocial behaviour. A further regression was run using model 4 in the Process macro to identify the mediation in the no-unity condition. Therefore, only data in the no-unity condition was used. X variable was severity of flood, mediator was shared identity, Y variable was prosocial index, and SDS and SI were covariates. Results have shown that there was no direct effect of X on Y, $B=0.157$, 95%CI= (-0.885, 1.199), however there was a significant indirect effect of X on Y, $B=0.610$, 95%CI= (0.105, 1.172), indicating that shared identity has fully mediated the relationship between severity of flood and prosocial index. Standardized coefficients of the paths are illustrated in the following figure (see Figure 7.4).

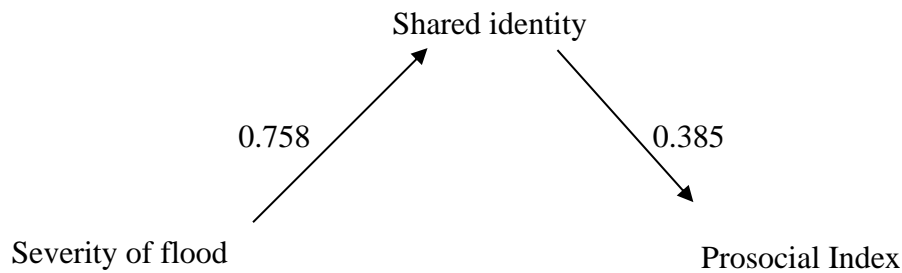


Figure 7.4 Standardized coefficients of the mediation model in the no-unity condition

7.4 Discussion

The present experiment sought to examine the effects of severity of flood and pre-existing unity on shared identity and helping behaviour. In general, the hypotheses were accepted.

The results have shown that severity of flood had a main effect on shared identity, where shared identity was stronger in the severe condition than that in the mild condition, which supported hypothesis 1. Shared identity mediated the relationship between severity of flood and time donation and prosocial index (water taken was not significant), however, this mediation effect only happened in the no-unity group. This partially supported hypothesis2 and 3.

The significant main effect of severity of flood on shared identity has shown that, while shared identity was often considered triggered by an emergency, its strength was largely influenced by the severity of the emergency itself. This result provided experimental evidence for the account that people were not united until the flood looked bad enough (see Extract 2 in study 2). The result also echoed Drury and colleagues' (2016) study of the 2010 Chile Earthquake, where they found that exposure to the disaster was positively linked with shared identity and social support. However, the result of the present study was different from the Chile study in a way that it was manipulated instead of being measured. Therefore, the result of the present study could provide direct evidence for the causal relationship between severity of disaster and level of shared identity. This result could be explained by the self-categorization process that involved comparative fit (Turner, 1987), which stated that people would maximize intragroup similarity in the

categorization process: in an emergency, the perceived similarity among those who are involved is shared experience, however, in a mild emergency, the sense of shared experience would be less strong as it may not be the most proper category that defines the group. As a result, shared identity would be less strong as well.

The significant main effect of pre-existing unity on shared identity has shown that, while shared identity was treated as an emergent psychological phenomenon that united people in peril, it could also be influenced by previously existed unity or community spirit. The result has shown that when pre-existing unity was high, shared identity was stronger, otherwise, it was less strong. This was largely overlooked in previous research, as pre-existing unity was often neglected in the social identity processes. In future research, if the emergency under investigation happens in a existed community instead of a group of complete strangers, it is important to take pre-existing unity into consideration as it could significantly influence the strength of shared identity.

While the main effect of it was useful, it did not tell us much about how pre-existing unity influence the whole process of the social identity theory. The results from the moderated mediation model has revealed that, pre-existing unity moderated the mediation process of shared identity between severity of flood and helping behaviour: when there was pre-existing unity, shared identity did not have a mediation effect; when there was no pre-existing unity, shared identity mediated the relationship between severity of flood and helping behaviour. In other words, when there was pre-existing unity, it would account for most of helping behaviour, and shared identity was no longer a significant antecedent of helping behaviour. However, when there was no pre-existing unity, shared identity would account for part of helping behaviour, given the level of severity of the flood. Simply put, the results showed that shared identity was more functional in a less united community than an already united one. This result clarified the myth in study 2, where it was found difficult to tell whether people helped each other due to shared identity or existing unity. It seemed that pre-existing unity had “overrun” shared identity in eliciting helping behaviour.

In terms of helping behaviour, the DVs, the results have showed that only time donation was a significant indicator. Water taken was not significant, and blanket donation and rice donation were not significant. While the number of donated blankets seemed constant across all four groups, water taken and rice donation exhibited the expected trend, albeit insignificant. Therefore, the Z scores of time donation, water taken,

and rice donation were averaged as a prosocial index and it had significant results. In fact, even if blanket donation was averaged with the other variables, the results remain significant as well. There were several reasons why three tasks were found not statistically significant. In the rice task, participant had one box full of rice and one empty donation box, which had the same volume as the rice box. Upon finishing each experiment, I would ask the participants to explain the logic behind their donation. A very large proportion of them reported that it sounded reasonable to donate half of what they had. The descriptive data for rice donation in each condition has shown this pattern, too. Some of them gave further explanation that if they donate half of what they had, the rice could help themselves and an extra person, which sounded good enough. Therefore, it seemed participants' donation was influenced by this norm of perceived fair distribution, or simply by the fact that they had two same-sized boxes and they were naturally more inclined to donate half of what they had. In the water task, the scale of water was shrunk because it would be difficult for participants to carry 20L of water. However, this may be less immersive since if participant decided to take 2L of water, they only needed to get a little amount of water equivalent to a cup of coffee in real life. This might have influenced participants' true intentions about how much water to take. Despite the limitations of this task, the means of each groups have shown the expected trend, so it could be treated as a promising task that could be adapted in future research. In the blanket task, which hardly worked as a meaningful indicator, the problem of it was probably the wording of the scenario. It was framed that donating one blanket would make them slightly cold, and that donating two blankets would make them cold. Most participants responded after the experiment that they definitely did not want to be cold. Moreover, some people reasoned that if they were cold, they would probably get sick, which would be an extra burden for the community. In the end, the majority of participants chose to donate one blanket, making no differences across the four conditions. Therefore, it seemed the scenario was not well designed so that participants' responses were not varied thoroughly.

Although the tasks were not ideal, considering they were newly measures created, and that some of the results have supported the hypotheses, they were worthy to be adapted in future research. Another contribution of the tasks was that they were designed in a semi-realistic way. Many participants reported that the tasks were immersive and interactive, and it was much better than a pencil and paper task. While simulating an emergency was not easy in a lab, the present study has shown that it could be done by

providing as immersive an environment as possible. It was feasible to do experiments on emergencies or disasters, which were badly needed in this area of research.

There are several limitations of the present study. The first thing has to do with participants. Most of them were undergraduate university students and about 81% of them were female. These could undermine the generalizability of the results to a larger population. For example, as the results have shown, marriage has a negative correlation with water taken – one married participant told me that he chose to be a little bit more selfish than he should have because he thought that if the flood really happened to him, he needed to be selfish to ensure that his child was safe and healthy. Therefore, the results may not apply to people who are married and have children. Secondly, as discussed above, the designs of the tasks need further refinement. For example, while the participants were willing to share some of their resources with the community, there were certain things that could hardly be shared by others, such as blankets. Thirdly, since the experiment was a simulation so that participants did not suffer from actual loss and traumatic experience, their responses might be different from what they would do in a real flood. Therefore, the results should be treated cautiously to avoid over-generalizing.

8 STUDY 4: THE INFLUENCE OF OBSERVED UNITY AND TIME ON SHARED IDENTITY

8.1 Introduction

In this study, I wanted to explore the effect of observed unity on shared identity and helping behaviour in the short and the long term. Observed unity and time were manipulated, and shared identity and helping behaviour were measured.

Given the success of the manipulations in the first experiment, I adopted a similar design in the present study. The DVs were altered as some of them were not very effective in the previous study. The flood scenario was kept for the same reasons discussed in study 3. Videos were used to manipulate observed unity, which had two levels – unity and no-unity. Observed unity was manipulated by telling the participants about the community involvement in dealing with the flood: in the unity condition, there was much more mutual support among the villagers, while in the no-unity condition, there was little interaction among the villagers and people needed to rely on and take care of themselves. The manipulated flood scenario was that of the severe condition in experiment 1, adopting the same text and video used in study 1. This was because this experiment was focused on the manipulation of unity rather than severity, so there was no need for the two severity conditions. The community was depicted as having no pre-existing unity in the village because it would weaken the mediating function of shared identity, as shown in study 1.

Time was manipulated by telling the participants before the tasks about how long it was after the flood. In the recent condition, participants needed to respond to the tasks thinking that it was a week after the flood, while in the remote condition, participants were told to think that it was a year after the flood.

The tasks were designed to test participants' general intention to help; in other words, the tasks were not flood related. This was because I wanted to explore whether shared

identity had any influence on people's overall helping behaviour. Moreover, the tasks had to be consistent in the short term and the long term. If the tasks were specific to the flood, e.g., carrying sandbags, then it could only be used in the short-term condition since there was no need for this in the long term, when the flood water subsided.

As discussed in Chapter 6, while shared identity was constructed via a top-down process (self-categorization), it could also be influenced via a bottom-up process (observing unity or mutual help). Therefore, by manipulating observed unity during the disaster, I expected to observe a change in shared identity: it would be higher in the unity condition than in the no-unity condition. Similar as study 3, shared identity was expected to cause helping behaviour, therefore, it was expected to mediate the relationship between observed unity and helping behaviour. However, this mediation effect was expected to be different in the two timeframes: the mediation in the recent condition was expected to be stronger than that in the remote condition. This was because shared identity was found to decline over time in study 1 and study 2, so that it was expected to be weaker in the remote condition.

In sum, the present study was a 2 by 2 between-subjects design, and the theoretical model was as follows (see Figure 8.1):

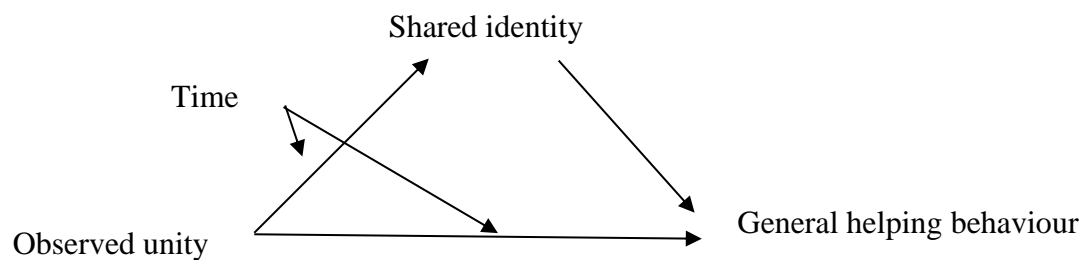


Figure 8.1 The proposed model of the present study

The hypotheses were:

(1) Observed unity has a main effect on shared identity and general helping behaviour, where shared identity and helping behaviour in the unity condition is higher than that in the no-unity condition.

(2) Shared identity mediates the relationship between observed unity and general helping behaviour.

(3) The mediation effect of shared identity is moderated by time, where this effect is stronger in the recent condition than that in the remote condition.

The ethical concerns and protocols to deal with them were basically the same as those in the first experiment, so I will not repeat them here.

8.2 Method

8.2.1 Participants

Participants were mostly students in St Andrews, and most of them were recruited on the University participant recruit system. Participants met the recruitment criteria if they were aged 18 and above and had not experienced a flood before. The experiment ended up with 113 participants, roughly 28 people in each condition (I intended to recruit about 10 - 20 more participants but the experiment was ended due to COVID-19). There were 87 (77.0%) female participants, 23 (20.4%) male participants, and 3 participants who were non-binary (2.7%). Participants age between 18 and 56 ($M=22.55$, $SD=6.46$). There were 34 different nationalities for all participants. Fifty-nine (52.2%) participants were European, twenty-six (23.0%) were North American, and twenty-one (18.6%) participants were Asian. Eighty-four (74.3%) participants were undergraduate students, eighteen participants (15.6%) were Master students, and ten (8.8%) are PhD students. One hundred and eight (95.6%) participants were not married.

Screening process. One participant who over two standard deviations from the mean (with a score of 1) in the Social Desirability Scale ($M=6.08$, $SD=2.49$) was considered an outlier and excluded from the analysis. Therefore, the final number of participants in the following analysis was 112.

Missing values. There were two missing values for the social identity measure, and they were replaced by the means of their group. There were also two missing values for the difficulty in imagining the time frame measure, and they were also replaced by the means of their group.

8.2.2 Measures and materials

The **Social Desirability Scale** ($M=6.13$, $SD=2.45$), **Moral Identity Scale** ($M=4.63$, $SD=0.47$, $\alpha=0.81$), and **measure of shared identity** ($M=4.47$, $SD=1.44$) were the same as those in study 3.

Manipulations. Observed unity was manipulated by videos (see Appendix 5 for the text of the manipulations and the links for the videos). In the unity condition, villagers were united and helped each other during the flood, while in the no-unity condition, there was little sense of community spirit and villagers tended to take care of themselves. The videos were to match the text as much as possible. The videos were accompanied by the text both read by a narrator and presented as subtitles to facilitate understanding. Two items (5-point Likert scale) were administered for manipulation check, i.e., “*To what extent do people in Rivertown [a made-up place name] support each other during the flood?*”, and “*How united do you think people in Rivertown are during the flood?*”. Higher scores indicated more observed unity ($M=3.16$, $SD=1.64$, $\alpha=0.98$). Time was manipulated by simply telling the participant that it was one week or one year after the flood. Participants were instructed by a piece of paper providing information about the time and the situation: in the short-term condition, participants were told that the flood water subsided but was not gone completely so that life was still disturbed; in the long-term condition, participants were told that the flood was long gone and people had not been affected by it for a long time. Since this manipulation was straightforward, it seemed odd to ask participants “how long is it from the flood” as manipulation check. Therefore, I did not ask this question, instead, I asked participants the difficulty in imagining themselves in the given time frame: “*To what extent did you complete the tasks with the notion that the flood happened a few days ago and people were still in trouble?*” and “*To what extent did you complete the tasks with the notion that the flood happened a year ago and people were no longer in trouble?*”. These two items were measured on a 5-point Likert scale ($M=4.02$, $SD=0.90$).

Tasks. Similar to study 1, the tasks were designed to be as interactive as possible. In addition, the tasks did not involve any flood relieving activities in order for them to make sense equally at two time conditions, since flood relieving activities would not make sense in the long term condition (see Appendix 6 for the text of the tasks). In task one, participants were told that there was a lot of garbage in the park and that the local resident association encouraged people to volunteer to clean up the garbage. Participants were given a flyer with a timetable where there were 10 slots (each slot took an hour) for each day of the weekend, and they needed to tick the slot(s) they preferred if they wanted to volunteer. Total number of slots was collected and was recorded in hours ($M=5.36$, $SD=4.11$). In task two, the local community hall

was appealing for a money donation for refurbishment. Participants saw the advertisement and needed to decide how much money they would like to donate. Participants were provided with a wallet, containing some toy money: £50×1, £20×1, £10×2, £5×1, £2×1, £1×3, with a total of £100. In this way, participants could donate any number of pounds from one to one hundred. The money participants donated was collected ($M=22.70$, $SD=19.75$). In both task one and task two, participants were provided with posters that advertised each donation. In task three, participants were told that they were stocking up on essentials in the supermarket and that they saw a donation place for the local food bank. They were told that they had bought far more food than they needed immediately. They were then asked to put some food in the donation box if they would like to donate any. Food was mostly canned, which was good for donation. No meat food was involved to avoid vegetarian people donating all the meat food. There were two units for each item: canned carrot (£0.5), canned corn (£0.5), canned bean (£1), canned whole bean (£1), canned spaghetti (£1), canned macaroni (£1), bag of rice (£1), box of tea (£2), bag of pasta (£1.5), and box of cereal (£3). The price of each item was labeled with a small piece of paper. The number of each donated item was collected. The total number of items donated was calculated as one DV ($M=6.55$, $SD=3.38$). The total value of the donated items was calculated as another indicator ($M=7.46$, $SD=4.20$).

Here is a photo of what the tasks looked like (see Figure 8.2).



Figure 8.2 Photo of the tasks in study 4 (from left to right, they were task 1 to 3)

8.2.3 Procedure

The participants were allocated randomly in the same way as that in experiment 1. Participants were led into the lab and given the information sheets and consent forms. Then the researcher explained the procedure in detail and left the room, which means the participants completed the experiment alone.

Participants complete the Social Desirability Scale and the Moral Identity Scale first, then they watched the video. After the video, the participants completed the two manipulation check items, and then they were given the information of time frame. After that, they completed the measure of shared identity and the tasks. At last, the participants reported some demographic information (age, marriage, education, and nationality) on the answer sheet.

Once the participant finished the experiment, they would get out of the lab and inform the experimenter who waited in the next room. The participants were then debriefed, thanked, and reimbursed.

8.3 Results

8.3.1 Manipulation check

For the observed unity manipulation, independent samples t-test showed that scores in the unity condition ($M=4.64$, $SD=0.44$) is significantly higher than that in the no-unity condition ($M=1.63$, $SD=0.78$), $t(84.45)=24.98$, $p<0.001$ (equal variance not assumed), *Cohen's d*=4.75, indicating that participants thought there was more observed unity in the unity condition than in the no-unity condition.

As explained in the method section, there was no manipulation check for the time frame due to its simple nature. However, we collected data on the difficulty of imagining the given time frame. Independent samples t-text showed that scores in the recent condition ($M=4.21$, $SD=0.70$) is significantly higher than that in the remote condition ($M=3.83$, $SD=1.03$), $t(94.57)=-2.27$, $p=0.026$, *Cohen's d*=0.43, indicating that it was more difficult for participants to imagine themselves in the remote condition than in the recent condition. As neither of the means was at the lower end (below 3) of the scale, in general, participants did not find it difficult to imagine themselves in different time frames, albeit the difference between the two conditions.

8.3.2 Correlations

The following table (see Table 8.1) summarizes the correlations of all the variables. I use this table to determine potential covariates for the next part of the analysis.

Table 8.1 Correlations of the variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Unity manipulation	1	.036	.475**	.069	.139	-.038	.041	.023	-.002	.134	.109	.014	.103	.073
2.Time manipulation	.036	1	-.217*	.02	-.051	-.105	.058	.043	-.173	-.118	-.036	-.107	-.093	-.098
3.Shared identity	.475**	-.217*	1	.188*	.142	.194*	.144	.033	.239*	.425**	.152	.197*	.334**	.343**
4.Age	.069	.02	.188*	1	.022	.456**	.096	.557**	-.033	.156	-.01	.008	.035	.05
5.Gender	.139	-.051	.142	.022	1	-.084	.034	.08	-.005	-.004	-.061	-.159	.019	.002
6.Marriage	-.038	-.105	.194*	.456**	-.084	1	-.031	.188*	.037	.178	.095	.146	.251**	.255**
7.Nationality	.041	.058	.144	.096	.034	-.031	1	.217*	.146	.115	.11	-.121	-.01	-.061
8.Education	.023	.043	.033	.557**	.08	.188*	.217*	1	-.038	.119	.071	-.167	-.199*	-.183
9.Hours	-.002	-.173	.239*	-.033	-.005	.037	.146	-.038	1	.467**	.171	.190*	.367**	.414**
10.Money	.134	-.118	.425**	.156	-.004	.178	.115	.119	.467**	1	.209*	.127	.547**	.571**
11.Social desirability	.109	-.036	.152	-.01	-.061	.095	.11	.071	.171	.209*	1	.196*	.134	.124
12.Moral identity	.014	-.107	.197*	.008	-.159	.146	-.121	-.167	.190*	.127	.196*	1	.174	.18
13.Number of items	.103	-.093	.334**	.035	.019	.251**	-.01	-.199*	.367**	.547**	.134	.174	1	.952**
14.Value of items	.073	-.098	.343**	.05	.002	.255**	-.061	-.183	.414**	.571**	.124	.18	.952**	1
**. Correlation is significant at the 0.01 level (2-tailed).														
*. Correlation is significant at the 0.05 level (2-tailed).														

Age was positively correlated with shared identity ($r=0.188, p=0.047$). Marriage was positively correlated with shared identity ($r=0.194, p=0.041$), number of items ($r=0.251, p=0.008$), and value of items ($r=0.255, p=0.007$). Education was negatively correlated with number of items ($r=-0.199, p=0.036$). Similar to study 1, since there were only 3 participants who were married, the correlations between marriage and the outcome variables were not robust enough to be considered as a valid covariate. Therefore, marriage was not entered as a covariate in the model. Moreover, if marriage was entered as a covariate in the following analysis, it did not change the significance and direction of the results, anyway. Age was used as a covariate for all the following analysis. Education was used as a covariate in only in the analysis that involved number of items donated.

8.3.3 Test of main effects and interaction

In the first part of the model, the main effects and interaction of the IVs on the mediator, i.e., shared identity, was tested via ANOVA. The observed unity manipulation had a significant main effect on shared identity, $F(1, 105)=33.20, p<0.001$, where shared identity in the unity condition ($M=5.14, SD=1.23$) is higher than that in the no-unity condition ($M=3.77, SD=1.32$). Time frame has a significant main effect on shared identity, $F(1, 105)=7.30, p=0.008$, indicating that shared identity in the recent condition ($M=4.77, SD=1.39$) is higher than that in the remote condition ($M=4.15, SD=1.44$). The interaction between observed unity and time frame was not significant, $F(1, 105)=1.375, p=0.244$, therefore, there was no need to proceed to test the moderated mediation model.

8.3.4 Test of mediation

I then tested the mediation role of shared identity between the IVs and the DVs. The *Process* macro (Hayes, 2016) was used to test the pathway model. Model 4 was used. X variable was observed unity manipulation and time frame, which were tested separately. M variable was shared identity, and Y variables were time donation, money donation, number of items and value of items, respectively. Social desirability score, moral identity score, and age were entered as covariates. Education was entered as a covariate for the number of items tests. The number of bootstraps was set to 5000.

There was no direct effect of observed unity on *time donation*, $B=-1.184, 95\%CI=(-2.883, 0.515)$. However, there was a significant indirect effect of observed unity on time

donation, $B=1.044$, 95%CI= (0.259, 2.022), indicating that shared identity fully mediated the relationship between observed unity and time donation. There was no direct effect of observed unity on *money donation*, $B=-3.601$, 95%CI= (-11.271, 4.069). However, there was a significant indirect effect of observed unity on money donation, $B=7.626$, 95%CI= (3.373, 13.344), indicating that shared identity fully mediated the relationship between observed unity and money donation. There was no direct effect of observed unity on *number of items*, $B=-0.602$, 95%CI= (-1.905, 0.702), however there was a significant indirect effect of observed unity on number of items, $B=0.976$, 95%CI= (0.287, 1.893), indicating that shared identity has fully mediated the relationship between observed unity and number of items. Results have shown that there was no direct effect of observed unity on *value of items*, $B=-1.102$, 95%CI= (-2.629, 0.784), however there was a significant indirect effect of observed unity on value of items, $B=1.326$, 95%CI= (0.475, 2.532), indicating that shared identity has fully mediated the relationship between observed unity and value of items. Standardized coefficients of the paths are illustrated in the following figure (see Figure 8.2).

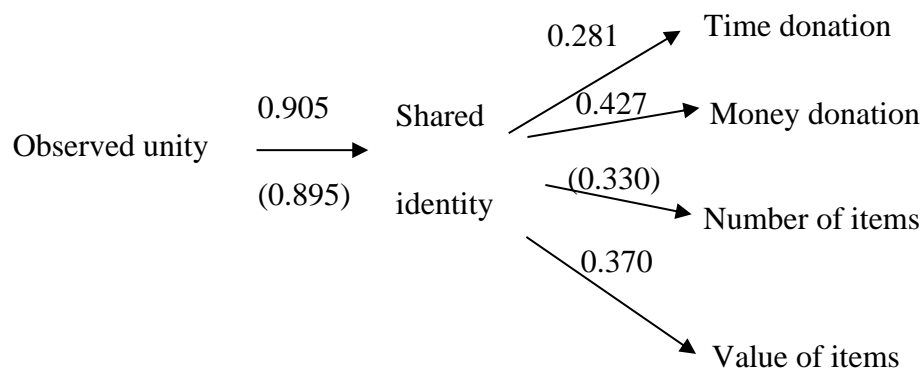


Table 8.2 The standardized coefficients of the path model. Numbers in the bracket meant that the pathway of “observed unity-shared identity-number of items” included an extra covariate of education

Results have shown that there was no direct effect of time frame on *time donation*, $B=-0.939$, 95%CI= (-2.470, 0.592), and there was no significant indirect effect of time frame on time donation, $B=-0.303$, 95%CI= (-0.779, 0.022). Results have shown that there was no direct effect of time frame on *money donation*, $B=-1.232$, 95%CI= (-8.155, 5.691), however there was a significant indirect effect of time frame on money donation, $B=-2.955$, 95%CI= (-5.767, -0.274), indicating that shared identity has fully mediated the relationship between time frame and money donation. Results have shown that there was

no direct effect of time frame on *number of items*, $B=-0.247$, 95%CI= (-1.425, 0.931), however there was a significant indirect effect of time frame on number of items, $B=-0.372$, 95%CI= (-0.850, -0.035), indicating that shared identity has fully mediated the relationship between time frame and number of items. Results have shown that there was no direct effect of time frame on *value of items*, $B=-0.144$, 95%CI= (-1.687, 1.399), however there was a significant indirect effect of time frame on value of items, $B=-0.523$, 95%CI= (-1.179, -0.044), indicating that shared identity has fully mediated the relationship between time frame and value of items. Standardized coefficients of the paths are illustrated in the following figure (see Figure 24).

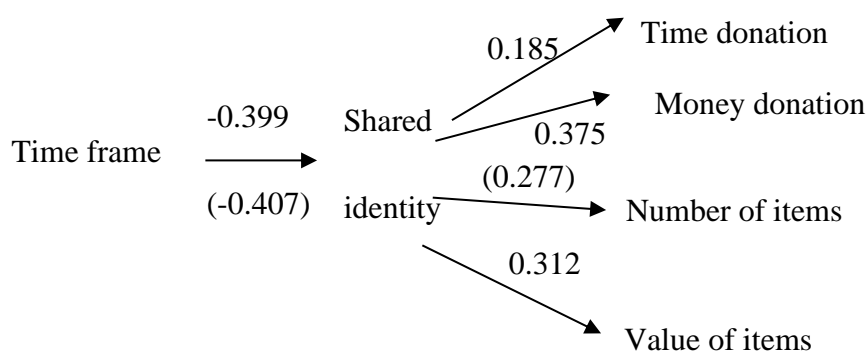


Table 8.3 The standardized coefficients of the path model. Numbers in the bracket meant that the pathway of “time frame-shared identity-number of items” included an extra covariate of education

8.4 Discussion

The present study sought to test the effects of observed unity on shared identity and helping behaviour, as well as how this process would be influenced by time frame. The results have shown that: (1) observed unity had a main effect on shared identity, where participants had higher levels of shared identity in the unity condition than in the no-unity condition, which supported hypothesis 1; time also had a main effect on shared identity, where participants had higher levels of shared identity in the recent condition than in the remote condition; (2) shared identity mediated the relationship between observed unity and outcome variables; it also mediated the relationship between time and outcome variables, which supported hypothesis 2; (3) observed unity and time did not have an interaction, which consequently meant time did not moderated the mediation of shared

identity between observed unity and outcome variables, which did not support hypothesis 3.

Therefore, the most important findings of the present study were the two mediation effects of shared identity between observed unity/time and helping behaviour. Observed unity was found to have a strong main effect on shared identity, showing that participants' perceived shared identity could be largely influenced by observed help. This suggested that the formation of shared identity could be an interactive process – not only did it involve a top-down component via self-categorization, it was also influenced by observed unity via a bottom-up process. The self-categorization process seemed to be a sufficient condition, while observed unity was a necessary condition for shared identity. The influence of observed unity was then translated into helping behaviour through shared identity, which could be summarized as “observing help led to providing help”. There were several explanations for this connection, for example, it could be a result of behavioural mimicry (Chartrand & Lakin, 2013) where people imitated others to guide their own behaviour; or it could be a result of norm following, where people were reported to be more likely to follow prosocial norms if they had observed others following the norms (Keizer, Lindenberg, & Steg, 2013). This study, on the other hand, has proved that shared identity underpinned the relationship between observed help and provided help during an emergency. In the unity condition where participants observed higher levels of mutual support, shared identity became stronger, which according to SCT and SIT, consequently led to more provided help because others in the community were more likely to be treated as ingroup members. Moreover, since the helping tasks were not flood related, the result has also showed that participants were more likely to help each other in general, instead of providing help that was emergently needed during the flood.

Shared identity was also found to mediate the relationship between time and helping behaviour. Post manipulation test has shown that the participants were more likely to put themselves in the correct time frame when the flood happened recently, indicating that it was more difficult to imagine themselves in the remote condition. A possible explanation for it was that participants needed to imagine the remote time frame after watching a vivid video about the flood so that it was difficult for them to switch out of the given scenario. If they were imagining the recent time frame, it would be more consistent with the content of the video, where the flood just happened. Despite this difference, the results have shown that time has significantly influenced shared identity, where participants in the

recent condition had higher levels of shared identity than in the remote condition. Shared identity fully mediated the relationship between time and the tasks, except for the time donation task, where it was not significant for the mediation. This could be caused by lack of participants so that the statistical power of the experiment was not strong enough. Nonetheless, the result has shown that shared identity in a disaster was by nature an emergent psychological response and it worked best during the emergency, and that it would decline over time. Although the participants did not physically experience the flow of time, i.e., waiting for a week or a year later to respond, the result has shown that simply imagining themselves in a different time frame could change their perceptions of shared identity. This echoed Ntontis and colleagues' (2018, 2020) finding that shared identity in a flood faded over time, which was also found in study 1 and study 2. A consequence of the decline of shared identity was the decline in helping behaviour. This was also reported by participants in study 1 and 2 that while they were willing to help others, they moved on to care more about their own life after the disasters. In social psychological terms, shared identity derived from an emergency was no longer salient among them, as the cause for it – common fate, where people were caught in the disaster together – was no longer existent.

To our surprise, the mediation effect was not moderated by time – there was no interaction between observed unity and time on shared identity and the mediation pathway. The insignificant interaction meant that the decline rate of shared identity stayed stable, regardless of observed unity. It implied that shared identity was closely related with the emergency itself, and that it would return to a base level when the emergency was over – although this base level varied based on the initial strength of shared identity. Since there was no interaction between the IVs on shared identity, there was also no moderating effect of time on the mediation processes, showing that the strength of the mediation effects of shared identity were similar in the recent and remote conditions.

One methodological contribution of the present study was the success of the tasks. Unlike in study 1 where there was only one task yielding a statistically significant result, in the present study, almost all three tasks have reached statistical significance, showing that they could be reliable indicators of helping behaviour in future research. A possible explanation for the success of these tasks was that the range of all indicators (time, money, and items) were relatively large (e.g., in the money task, people could donate any number between 0 and 100 pounds), which resulted in more variance in their decisions. In

comparison, in the blanket task in study 1, the range of choices were so limited that participants chose to either donate one blanket or none. In the rice task, I have observed that most participants donated half of what they had, and I thought they might be induced to do so as their rice box and the donation box were of the same size. In the present study, I have provided a much bigger range for participants' "possessions" – they had 20 items that could fill up a shopping basket. Although there were still a small number of participants chose to simply donate half of what they had, most participants did not. Moreover, many participants reported after the experiment that it was interactive and made them more likely to make decisions they would make in real life, compared with pencil and paper tasks. For example, one participant said it felt very different to take money from the wallet, even though it was not her wallet; she said she hesitated when she held the wallet and donated less than the number she planned to donate. In a paper-based task, she probably would write down the number she had in mind. Although there was no data to prove that the interactive tasks in the present study would yield a different result from those designed on paper, at least it had made many participants happy with this form of tasks, which could potentially enhance their involvement in completing the tasks.

There are several limitations of the experiment. The first has to do with the participants as well – again, there were about 77% female participants, and 74% undergraduate participants, which restricted the generalizability of the results to a wider range of population. Secondly, although the manipulation of time had an effect on shared identity, participants reported more difficulty in imagining themselves in the remote condition, which could have influenced the results. For example, participants might still be in the recent mode due to the video and their responses might therefore be influenced by both a passive recent mindset and an active remote mindset. It might be useful to add a filler task between the video and the time manipulation in future research. Thirdly, due to the pandemic, the experiment was suspended, therefore, the number of participants was smaller than the planned number. This could undermine the statistical power of the experiment. However, since the mediations were mostly significant, and that the interaction was not even close to reach significance, it was arguable that the current results were unlikely to change if there were more participants, except that the insignificant mediation could reach significance. In this sense, it was appropriate to accept the present results, albeit a small number of lack of participants.

9 GENERAL DISCUSSION

In this chapter, I will give a general discussion for all of the four studies. I will first recap the key findings of the studies, then I will discuss the implications of the results. After that, I will talk about the limitations of the research, followed by suggestions for future research.

9.1 Summary of the results

The present research programme sought to answer three general questions: (1) can the social identity model of collective behaviours in emergencies and disasters be applied in a non-Western background? (2) how does shared identity develop over time? (3) what factors may enhance or undermine the strength of shared identity?

Four studies were designed to answer these questions.

Study 1 sought to explore the research questions in general via an ethnographic approach. Evidence of the shared identity processes was found in the Chinese background, and the trajectory of the shared identity processes was outlined by introducing the different subtypes of shared identity. Study 2 adopted a similar research approach as that in study 1, but it sought to explore the research questions in a different setting (e.g., mild disaster and pre-existing unity). Evidence of shared identity was found again, however, it seemed to be mixed with pre-existing unity. By comparing the results between study 1 and study 2, four factors that might influence the strength of shared identity were identified, and they were explored in two experiments. In study 3, it was found that severity of disaster and pre-existing unity had interacted to influence the social identity process. In study 4, it was found that observed unity and time had a main effect on shared identity, but they did not have an interaction.

In the following discussion, I will summarize the findings by themes.

9.1.1 Application of the social identity model in an earthquake in China

Study 1 was carried out in China, investigating the 2008 Wenchuan Earthquake. The results have shown that there was abundant evidence of the shared identity phenomenon during the earthquake. Almost all participants have reported the sense of unity, and most of them would say that it was “strong” and “widespread”. Common fate, often described in a way like “we were in this together”, seemed to be the antecedent of shared identity, while solidary behaviour, such as sharing food, seemed to be the consequence of shared identity. It was not possible to get causal results from a qualitative study, however, the results have at least shown that common fate, shared identity, and helping behaviour were closely connected with each other, which fit the social identity model well, and echoed the results of previous research (e.g., Reicher, 1998; Drury et al., 2009a, 2009b; Drury, 2012). Therefore, it was plausible to conclude that the social identity model was applicable in the earthquake in the Chinese background. As no previous research has focused on this topic before, study 1 has contributed to the generalizability of the social identity model.

9.1.2 Variations of shared identity

Except that the results in study 1 has shown that the social identity model was applicable in the Chinese background, they have also revealed an unexpected and unexplored fact that shared identity would develop into different subtypes overtime. Four subtypes of shared identity were identified in the analysis: (1) general shared identity, characterized by a general sense of unity, including everyone who was affected by the earthquake. General shared identity was the equivalent of the shared identity that was widely reported in previous research. (2) Shared identity among the civilians, characterized by a collective sense of unity among the civilians, with the local authorities as the outgroup. Shared identity among the civilians emerged after the emergent period when people felt that they were unfairly treated by the local authorities, and when they suspected that there was certain level of corruption among the local authorities. (3) Shared identity among the parents, characterized by a unique sense of identity among the parents who lost their children in the primary school, and the outgroup was the local authorities, too. The parents were initially a small subgroup because they thought losing one's children was the most devastating experience, compared with losing other family members. Their unity was later strengthened by not being properly compensated by the local authorities, which further resulted in some severe conflicts between them and the

local authorities. (4) National shared identity was characterized by a sense of being Chinese, and a sense of fighting against the disaster with the whole nation. National identity was developed when the locals received a lot of support from outside forces, such as the central government, the army, and the volunteers.

In the flood study, however, there were no accounts about the variations of shared identity. One possible explanation was that shared identity sustained in a much shorter period in the flood study than in the earthquake study so that there was no time for it to shift into different subtypes. Another factor was that the local authorities in the Irish village had provided the most vital support to the flooded residents, whereas the local authorities in the earthquake case seemed to have undermined residents' benefits. Therefore, it was unlikely to observe any division between the civilians and the local authorities in the flood study.

9.1.3 Trajectory of shared identity

In study 1, it was found that the trajectory shared identity could be divided into three phases according to the post-earthquake recovery periods: the emergent phase, the initial recovery phase, and the resettlement phase. In the emergent phase, shared identity emerged almost immediately after the earthquake – while most people reported that the first thing they did after the earthquake was to look for their family members, the next thing they did or observed was rescuing others, especially children in the primary school. In the recovery phase, people were temporarily settled in prefabricated houses for about a year, during which the division between the civilians and the local authorities began to emerge and reached its peak when some parents beat some government officials and got arrested. During this phase, shared identity seemed to have broken into several subtypes as discussed earlier. In the resettlement phase, the relationship between the civilians and the local authorities were still negative, however, no conflicts or any collective actions against the local authorities were reported. On the other hand, the participants reported that shared identity during the earthquake had made villagers more united and friendlier to each other. Most people reported that shared identity disappeared when they no longer lived together during reconstruction. However, shared identity did not disappear completely, rather, it re-emerged when people returned to Yingxiu, and it was constantly reminded by shared memories of the disaster, as the town was rebuilt into an earthquake themed tourist attraction so that there were multiple reminders of the earthquake.

The trajectory of shared identity was much simpler in the Irish study. Since the flood happened slowly, shared identity did not emerge at the beginning, when there was little flood water in the village. However, when things became worse – when flood water entered the village and some people’s properties, people became more united and community-oriented. This sense of unity quickly disappeared after a couple of weeks when the flood water subsided, although during this time, some people were still struggling with the damage and loss caused by the flood.

In study 4, I found that by simply switching the time frame from recent to remote, participants showed different levels of shared identity: in the recent condition where participants were told that the flood happened a week ago, they have exhibited higher levels of shared identity than in the remote condition, where they were told that the flood happened a year ago. This has shown that shared identity was conceptually emergency related and that it would fade away if people found themselves unrelated to the emergency.

9.1.4 Consequences of shared identity

In line with previous research, the most commonly reported outcome of shared identity was solidary behaviour. In terms of temporality, the immediate or short-term consequence of shared identity was mutual help, while the long-term consequence of shared identity was enhanced general sense of unity or friendliness.

In study 1, mutual help comprised of both practical support and emotional support, such as rescuing people and sharing food. While sharing food seemed to be like a practical way of helping, in some cases, it provided more emotional support than practical support because people with very limited food shared it with each other as well. Mutual help was also embodied by readiness to help, where participants said they were glad to help whenever needed, and for some of them, they would prioritize others’ need over their own business. In study 2, there was less practical help among the residents, because sandbags and pumps were the two most important things for flood mitigation, and only the local council was able to provide them. However, less practical help did not mean that people were not united or that they did not care about each other. Most participants would report that there was a sense of shared identity during the flood, and that despite the limitation of providing practical help, many people offered oral help to assure the flooded residents. This sense of unity and willingness to help were reported by participants who were flooded, those who were not affected, the city police officer and the city councilor.

The experiments in study 3 and study 4 have also proved that where there were higher levels of shared identity, people were more likely to help the community, even at the cost of sacrificing their own needs to a certain level. Moreover, not only were the participants more likely to help each other during the flood, they also showed increased level of general help if they had higher levels of shared identity.

In study 1, I found that the long-term consequence of shared identity might be enhanced sense of general unity. However, this was not proved in study 4, where I found that a stronger sense of shared identity as manipulated by observed unity declined at the same rate as that with a lower level of shared identity. This, again, implicated that shared identity was tied with the emergency, and that people's willingness to help the community would return to its baseline level in the end.

9.1.5 Factors that influence shared identity

By comparing the two field studies I have identified four factors that might influence shared identity: severity of disaster, pre-existing unity, observed unity, and time. These factors were systematically discussed in Chapter 6 so I will not repeat how they were summarized here. I predicted that severity of disaster, pre-existing unity, and observed unity were positively associated with shared identity, while time was negatively associated with shared identity. I also predicted that there were interactions between these factors, and I chose two sets of factors to test in experiments.

Results in study 3 have shown that severity of flood had a main effect on shared identity, which was stronger in the severe condition than in the mild condition. Pre-existing unity also had a main effect on shared identity, which was stronger in the unity condition than in the no-unity condition. There was an interaction between severity of flood and pre-existing unity on shared identity: shared identity remained at a higher level in the severe condition, regardless of the level of pre-existing unity; however, in the mild condition, shared identity was significantly weaker in the no-unity condition than in the unity condition. This further led to the moderation effect of pre-existing unity on the mediation effect of shared identity between severity of flood and helping behaviour, where the mediation effect was only significant in the no-unity condition. While the time donation task was the only statistically significant indicator for helping behaviour, the average of Z scores of the water task, the rice task, and the time donation task has proved to be a significant indicator as well.

Results in study 4 have shown that observed unity had a main effect on shared identity, where shared identity was stronger in the unity condition than the no-unity condition. Time also had a main effect on shared identity, where it was stronger in the recent condition than in the remote condition. However, there was no interaction between observed unity and time on shared identity. Further tests have shown that shared identity has fully mediated the relationship between observed unity and helping behaviours, and the relationship between time and helping behaviours. The tasks were successful indicators except for one path: the mediation of shared identity between time and time donation.

9.2 Implications of the results

In this section, I will discuss the implications of the results from four studies. I will break it into two parts: theoretical implications and methodological implications. In the theoretical implications part, I will talk about how these results fit into and add new knowledge to existing theories and models. In the methodological implications part, I will summarize the factors that might be important in designing an experiment about a flood, which was hardly carried out in previous research.

9.2.1 Theoretical implications

Firstly, all the four studies have shown that their results fit into the social identity model of collective behaviours in emergencies and disasters. In study 1 and study 2, I have found that (1) there was abundant evidence of shared identity, (2) common fate was the antecedent of shared identity, and (3) solidary behaviour was the consequence of shared identity – all of which have supported the social identity model. These findings were in line with previous qualitative research in this area (e.g., Drury et al., 2009; Ntontis, 2018). Study 3 and study 4 have proved that shared identity played a mediating role between the factors that I assumed might influence shared identity and various helping behaviours, which also echoed with some quantitative studies that have done before, such as the evacuation simulation study (Drury et al., 2009) and the cross-sectional survey study (Drury et al., 2016). Together these studies have provided convergent evidence that the social identity model was particularly useful in explaining solidary behaviours in disasters, and that the social identity model was robust – it was applicable in either an earthquake or a flood, and in either Chinese culture or Western culture.

The second implication is the consideration of the subtypes of shared identity. While common fate serves as the antecedent of shared identity in the first place, previous research has shown that shared identity could be caused by other factors such as shared goals, shared problems, and vulnerability (Ntontis et al., 2018). Study 1 has shown that some of these factors could develop over time, and that it would reshape shared identity. For example, the parents group identity was strengthened when they received unfair treatment from the local authorities. It was shared problem or shared sense of unfairness that brought them together. Therefore, they have developed a subtype of shared identity, one that was undoubtedly related to the earthquake, but also strongly related to group division. In this sense, if shared identity is continued to be treated as a general sense of unity, not only will it cause researchers to miss the nuance of its variation, it may also bring bias to the results. For example, the strength of general shared identity and shared identity among parents were different, however, if only general shared identity was measured (e.g., “I feel united with the others”) – as most previous research did – the parents might just report their sense of unity with the parents group because that was closer to their experience and that participants might not distinguish these two types of shared identity conceptually. In this case, the final score of shared identity was actually a mix of general shared identity and shared identity among parents, which was biased unless the strength of these two types of shared identity happen to be the same. Therefore, the variation of shared identity should be taken into consideration in future research, though in some cases, there might be no variations at all, as shown by study 2.

Thirdly, there were several factors that enhanced or undermined shared identity. By comparing the results of Study 1 and Study 2, I have identified four factors (severity of flood, pre-existing unity, observed unity, and time) that might influence shared identity and they were all proved to have a main effect on shared identity in Study 3 and Study 4. Moreover, there was an interaction between severity of flood and pre-existing unity. While shared identity was often systematically examined in the whole social identity model, i.e., the mediation role of shared identity between common fate and solidarity behaviours, these results have shown that it is also important to examine the moderators of shared identity, which could influence the strength of shared identity and consequently moderate the mediation effect of shared identity. These factors, however, were overlooked in previous research. If these factors are not acknowledged or controlled, there might be a danger of getting biased results. For example, I have shown that pre-existing unity could strongly influence the level of shared identity and it may even “mute” the

mediation effect of shared identity. This implicated that if the community was united before the flood, shared identity would be less functional as participants' solidary behaviour was primarily caused by pre-existing unity. Therefore, in such cases, it would be difficult to study shared identity as it may not be functioning.

Finally, the emergence and the disappearance of share identity might be more straightforward than what researchers originally expected. In study 1, I have found that shared identity might have enhanced participants' overall sense of unity and willingness to help in the long run. Similarly, Ntontis and colleagues (2018) also found that shared identity might develop into some form of social capital after the disaster. Therefore, I hypothesized that shared identity would remain stronger in the long term if it was stronger in the first place; in another word, the fading of it would be slower. However, in Study 4, I found no interaction between observed unity and time, which consequently rejected the moderated mediation model I proposed. This result has shown that shared identity seemed to decline at a relatively stable rate, regardless of observed unity. The result implicated that by simply manipulating the time frame from recent to remote, shared identity would decline to its baselevel, which could be determined by other factors, such as observed unity. Therefore, it seemed shared identity could be switched on and off by the mere presence of the disaster. In another word, it was not the temporal difference that mattered in terms of the trajectory of shared identity, rather, it was the shared experience or shared memory that played an important role in the wax and wane of the shared social identity.

9.2.2 Methodological implications

One unique contribution of the present research is that I used experiments to test some of my hypotheses, which was seldomly done in previous research because it was difficult to simulate a disaster and that there might be worries that participants may not be involved as there would be no real danger or threat to them. Despite the difficulty and worries, Study 3 and Study 4 have shown that it was possible to simulate a flood in lab and that it has met our expectations.

I used several methods to make participants feel involved. First of all, the experiments were carried out in the social immersion room in St Andrews, where participants could be surrounded by video and audio. Secondly, I did not just “throw” the flood at the participants, instead, I built the flood scenario slowly, like what happened in real life: (1) there was warnings of flood, (2) flood water began to rise, (3) roads and some

parts of the village were flooded, (4) water began to enter people's houses, (5) the rain seemed to be weaker, however, it became more heavy after a few days, causing more damage. Thirdly, there was a background raining soundtrack playing for the whole duration of the experiment. Many participants reported that it was a good idea because they felt "wet" the whole time due to the consistent raining sound. Therefore, I suggest that when simulating a disaster, it is better to add as much detail as possible to make participants feel involved, before administering any manipulations.

In terms of the tasks, I tried to make them as physical and interactive as possible, and I refused to let participants report their helping behaviour on paper, such as "please write down the amount of money you would like to donate". Many participants commented on the worksheets that they liked the way the tasks were designed – it was interactive and made them feel more likely to respond the way they would in real life.

Since the studies were not designed to test the viability of simulating a flood in lab, I did not have data to prove whether the details I mentioned above had made a difference or not. However, at least I could say that it is very likely to successfully simulate a flood following my design, as both Study 3 and Study 4 have yield valuable results.

9.3 Limitations and suggestions for future research

Since the limitations of each study were systematically discussed in their corresponding chapters, I will not review them in this section. Instead, I would like to discuss some limitations that have involved more than one study.

In Chapter 6, I have summarized the findings of Study 1 and Study 2, after which I compared the results and discern some factors to examine. A problem for this comparison was that the two scenarios were not strictly matched: one was about an earthquake and the other about a flood, one was in Chinese background and the other in Western background, and so on. From a scientific point of view, since there were so many uncontrolled conditions between the two studies, it was almost impossible to draw any conclusions from the comparison of the results of the two studies. Here I will offer several defenses for this comparison, which played a pivotal role in my thesis. Firstly, the two studies were intended to be exploratory than confirmatory. Even within each single study, I was open to and welcome new findings or insights that I had not thought of before. The aim of the two studies was to identify possible factors that could be further examined in

experiments, therefore, while it seemed bold to compare these two different studies, it did not divert from the initial purpose of the two studies. Secondly, it was almost impossible to conduct multiple field studies that were matched in some respects, while investigating the others. For example, if I wanted to explore the role of pre-existing unity in the earthquake, I needed to find another town that was equally damaged by the earthquake, that had similar populations, that was economically compatible, and that received equivalent support from others, etc.. This is almost impossible. Even if there is a town that meets all our requirements, conducting two field studies to explore a single factor is not practical at all. Therefore, it was acceptable that the two studies were not strictly matched in some ways. Lastly, from a post hoc point of view, the factors I have identified were proved to have influenced shared identity, so that the comparison was not completely unreasonable. Despite these defenses, I have to admit that it would be better if the two studies were better controlled, for example, eliminating cultural influence by studying a flood in China instead of Ireland.

Another limitation was that I did not test all the possible interactions between the factors in experiments. While this does not weaken the findings of the studies, it does make the research programme incomplete. However, given the time limit for a PhD programme and that completing each experiment took almost a year, it was impractical for me to exhaust all possible interactions. Even if some of the interactions were not tested, from the results I already have, I can conceptually identify the interactions that might be significant: (1) since pre-existing unity and observed unity both involve sense of unity within the community, it is possible that there will be an interaction between severity of flood and observed unity, yet there will not be an interaction between time and pre-existing unity, according to the results from the two experiments. (2) since shared identity seems to decline at a certain rate regardless of its previous strength, it is unlikely that severity of flood will interact with time. (3) there might be an interaction between pre-existing unity and observed unity, where in the no pre-existing unity condition, observed unity would enhance shared identity, while in the pre-existing unity condition, observed unity would not influence shared identity. This prediction is derived from the results of Study 1. Therefore, in future research, the interactions that are more likely to appear should be examined with priority.

Since one of the focus of the present research was to identify and examine possible moderators of shared identity and how this translated into action, I did not involve

common fate, the antecedent of it, for the reason of simplifying the model of the experiments. Therefore, another limitation of the two experiments was that it did not test how these factors influence the association between common fate and shared identity. Moreover, as Drury and colleagues (2016) have found that expectation of support had played a mediating role between shared identity and social support, it is also worthwhile to include expected support in the model.

In future research, I suggest the following topics: (1) continuing to examine the factors that were found to be influential on shared identity and also examine the interactions between them; (2) examining the influence of these factors on the variables (e.g., common fate and expected support) that were proved vital in the social identity model; (3) recruiting participants with a more balanced gender rate and a wider range of age, etc., to improve the generalizability of the results; (4) refining the tasks so that they could be more reliable indicators for help. For example, gender difference could be taken into consideration – men were supposed to do more physical work, such as carrying sandbags. Another indicator could be providing emotional support, or orally offering help, as observed in the Irish study.

9.4 Conclusion

The present PhD research sought to investigate shared identity in emergencies and disasters in more detail, namely the applicability of it in the Chinese background, the trajectory of it, and the factors that may influence it, all of which were to some extent overlooked in previous research. The results have shown that the social identity model was useful in explaining group behaviour in both the earthquake in China and the flood in Ireland. They also have provided new knowledge about the development of shared identity over time and identified some moderators of it, which have made a contribution in refining the social identity model. In addition, the adoption of experiments, which were seldom used in previous research, has proved itself to be a very useful tool in examining specific factors that could influence the social identity processes, where they could hardly be controlled in qualitative studies. The social identity model in emergencies and disasters was often studied in a broader context, where mental health, collective resilience, and post-traumatic growth, etc., were involved; however, the present research has shown that the anatomy of the psychological processes of the shared identity processes should be more systematically studied as well, since there were many factors that could enhance or

undermine shared identity, which would consequently change its short-term or long-term consequences.

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11 APPENDICES

APPENDIX 1: GUIDELINE FOR SEMI-STRUCTURED INTERVIEW (STUDY 1)

Overall issues:

This is a semi-structured interview in which there are a number of themes and issues we wish to explore, but rather than having specific questions, the actual way we do the exploration will depend on participants own answers. Sometimes an opening question will lead to responses that cover a whole range of issues, sometimes specific prompts will be needed to address these issues.

In terms of approach, we will start off asking general questions which see if people raise the topics we are concerned with spontaneously and, only if they do not, will be raise these topics explicitly. For instance, we might ask 'what was the community like before the earthquake and see if people talk about unity, cohesion, division etc.. If they do, we will then probe what they say in more detail. If they don't we will then ourselves ask them about unity and division.

Our themes are organised on a temporal basis, addressing the nature of the community - the existence, waxing or waning of shared identity - before, sharing, just after and longer after the earthquake. we will not explicitly ask them about their own experience (in order to minimise the risk of re-invoking trauma) unless they spontaneously use it to illustrate broader points they are making (e.g. someone helped me by providing a room to sleep in after my own house was damaged).

To be more explicit, the interview will proceed as follows:

Theme 1: Explore the nature of the community before the earthquake (sense of unity, any divisions and along what lines)

Theme 2: Explore what happened during the earthquake (did it affect all parts of the community equally; how did people behave; was there a sense of connectedness, and if so, who to; did they support each other; was support extended beyond family and friends; were there limits to help and solidarity and were there examples of people ignoring each other)

Theme 3: Explore the immediate aftermath of the earthquake (how did it impact the community; did people behave well or badly and were particular people set up as role

models; did it unite or divide people; did people allocate blame for the earthquake and its consequences - and if so how; did people talk about external agencies - NGOs, local and national government - and if so how).

Theme 4: Explore the longer term consequences of the earthquake (how did the community respond; did it become more united or more divided and what were the causes; did long term relationships arise out of the experience of the earthquake or were relationships broken up; did external agencies intervene and how; did the actions of external agencies impact the sense of unity/division in the community.

APPENDIX 2: GUIDELINE FOR SEMI-STRUCTURED INTERVIEW (STUDY 2)

Overall issues:

This is a semi-structured interview in which there are a number of themes and issues we wish to explore, but rather than having specific questions, the actual way we do the exploration will depend on participants own answers. Sometimes an opening question will lead to responses that cover a whole range of issues, sometimes specific prompts will be needed to address these issues.

In terms of approach, we will start off asking general questions which see if people raise the topics we are concerned with spontaneously and, only if they do not, will be raise these topics explicitly. For instance, we might ask 'what was the community like before the severe floods in recent years and see if people talk about unity, cohesion, division etc.. If they do, we will then probe what they say in more detail. If they don't we will then ourselves ask them about unity and division.

Our themes are organised on a temporal basis, addressing the nature of the community - the existence, waxing or waning of shared identity - before, sharing, just after the floods.

To be more explicit, the interview will proceed as follows:

Theme 1: Explore the nature of the community before the severe floods (sense of unity, any divisions and along what lines)

Theme 2: Explore what happened during the floods (did it affect all parts of the community equally; how did people behave; was there a sense of connectedness, and if so, who to; did they support each other; was support extended beyond family and friends; were there limits to help and solidarity and were there examples of people ignoring each other)

Theme 3: Explore the immediate aftermath of the floods (how did it impact the community; did people behave well or badly and were particular people set up as role models; did it unite or divide people; did people allocate blame for the flood and its consequences - and if so how; did people talk about external agencies - NGOs, local and national government - and if so how).

Theme 4: Explore the longer term consequences of the flood (how did the community respond; did it become more united or more divided and what were the causes; did long term relationships arise out of the experience of the flood or were relationships broken up; did external agencies intervene and how; did the actions of external agencies impact the sense of unity/division in the community).

APPENDIX 3: TEXT FOR THE VIDEO IN STUDY 3

Links for the videos:

Severe & Unity: <https://youtu.be/WuDbQtJUrsM>

Severe & No-unity: <https://youtu.be/pIWmkn19yQc>

Mild & Unity: <https://youtu.be/WuDbQtJUrsM>

Mild & No-unity: <https://youtu.be/WuDbQtJUrsM>

Community-background	
Duration (second)	Text
6	Thank you for your participation
6	In this experiment, you will be a resident in Rivertown
8	Rivertown is a scenic village on the banks of the River Flow, some 14 miles from the nearest city.
6	This is the map of Rivertown
6	You live here
6	You moved into Rivertown five years ago
6	You live with three friends

6	You like this village
6	It is a great place to live

No Community	
Duration (second)	Text
9	On moving into Rivertown you discovered that most people work in the city
10	It is effectively a dormitory village and there is little going on
10	You found that there is little sense of community in the village
6	People are polite, but they don't really know their neighbors
12	or talk to people in shops or on the street
10	The local community centre organizes few social activities on a regular basis
10	and attendance is low
7	People tend to come home from work and stay at home

20	In general, Rivertown lacks a sense of community and people do not feel connected to each other
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Community-oriented	
Duration (second)	Text
9	On moving into Rivertown, you discovered that most people work locally
10	Rivertown has a strong sense of identity and there is lots going on
10	You found that the whole village is very community-oriented
6	People know their neighbors well
12	In public and in shops, people nod, smile and chat to each other
10	The local community centre holds various activities on a regular basis
10	and they are generally well attended
7	People like to go out in the village after work
20	In general, Rivertown has a strong sense of community and people feel connected to each other

Severity-background	
Duration (second)	Text
6	Rivertown is in the west of the country
6	It has a mild climate but is known for having high annual rainfall
6	often concentrated in intense bouts in the autumn and winter
6	This winter, however, it is wetter than people can remember
6	It has been raining on and off for over a month
6	The ground is saturated
6	The water levels are high
6	There is now nowhere for the excess water to go
8	And now, for the last week, it has rained continuously
6	The river is getting dangerously high
8	It has reached a mark on the village bridge that hasn't happened in the last 30 years

6	There is a real prospect of flooding if the rain doesn't stop soon
6	The weather forecasters say that if it continues to rain for the next 48 hours
6	the river will breach its banks and the village will be flooded
8	The good news is that the present bad weather system has played itself out
6	The bad news is that there is a new system coming over the Atlantic
6	but it looks unlikely that it will pass over the local area
6	The rain stops
6	Everyone breathes a sigh of relief
6	But then the news comes that the new low pressure system has changed direction
6	and is heading right over Rivertown
6	The rain starts again, heavier than ever
6	And it does not stop

6	As you go to bed, the first reports come in that the flood defenses have failed
6	and the river is starting to burst its banks
6	The Council sends out a message that people should be prepared for a flood

Mild	
Duration (second)	Text
6	When you wake up in the morning, you find that there is flooding, but not very much
5	The water on the roads is about a few inches deep on average
6	though it goes up to a foot or so in some places
8	This is making it inconvenient, but not impossible, for vehicles to drive through or for people to walk around
5	Only a little water is getting into people's houses
5	and there is little risk of serious injury
6	As the day continues, the situation stays the same
6	The flood doesn't recede but nor does it rise
6	Everyday life is a little disrupted
4	The water does not come into your house
8	Your yard is saturated with rain water, which causes inconvenience, but no major damage

6	You and your house are safe
5	This is typical of the village as a whole
6	Things carry on much the same for the next three days
20	There is inconvenience, disruption and some damage. But nothing catastrophic

Severe	
Duration (second)	Text
6	When you wake up in the morning, you find that the village is severely flooded
5	The water on the roads is about two or three feet deep on average
6	and it can go up to four or five feet in some places
8	This is making it dangerous for vehicles to drive through or for people to walk around
5	Moreover, the water is beginning to spill into people's houses
5	There is a real risk of serious injury or even death if people go near the river
6	As the day continues, things get worse
6	The water rises
6	It is hard to go out and dangerous to go to parts of the village near the river
4	In your own house, the water has come in

8	You spend the day moving valuables upstairs, but downstairs is a couple of feet under dirty water
6	Everything – carpets, furniture, walls - is ruined
5	This is typical of the village as a whole
6	Things carry on much the same for the next three days
20	Your house is flooded. The village is in turmoil. Some people are badly hurt, and a number of elderly and vulnerable people are hospitalized

APPENDIX 4: MATERIALS AND INSTRUCTIONS OF STUDY 3

Thank you for your participation

Before you watch the video, please complete the following two questionnaires.

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is <i>true (T)</i> or <i>false (F)</i> as it pertains to your personality.	
1. It is sometimes hard for me to go on with my work if I am not encouraged.	
2. I sometimes feel resentful when I don't get my way.	
3. On a few occasions, I have given up doing something because I thought too little of my ability.	
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.	
5. No matter who I'm talking to, I'm always a good listener.	
6. There have been occasions when I took advantage of someone.	
7. I'm always willing to admit it when I make a mistake.	
8. I sometimes try to get even rather than forgive and forget.	

9. I am always courteous, even to people who are disagreeable.	
10. I have never been irked when people expressed ideas very different from my own.	
11. There have been times when I was quite jealous of the good fortune of others.	
12. I am sometimes irritated by people who ask favors of me.	
13. I have never deliberately said something that hurt someone's feelings.	

Listed below are some characteristics that may describe a person:

Caring	Kind	Fair
Friendly	Generous	Hardworking
Helpful	Honest	Compassionate

Please answer the following questions from 1 (<i>Strongly disagree</i>) to 5 (<i>Strongly agree</i>)					
1. It would make me feel good to be a person who has these characteristics.	1	2	3	4	5
2. Being someone who has these characteristics is an important part of who I am.	1	2	3	4	5
3. I would be ashamed to be a person who has these characteristics.	1	2	3	4	5

4. Having these characteristics is not really important to me.	1	2	3	4	5
5. I strongly desire to have these characteristics.	1	2	3	4	5

Please watch the video

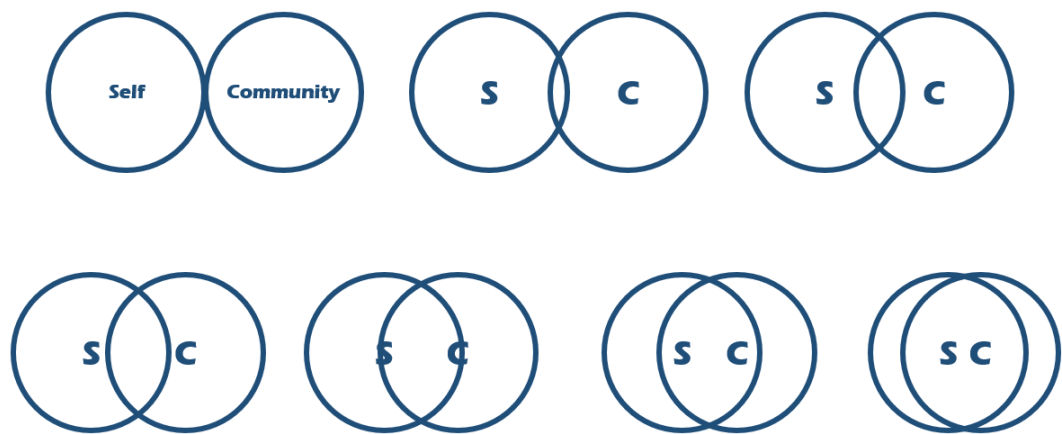
Please return to the answer sheet after being indicated by the video

Please do NOT close the video

Now, please complete the following questionnaires.

Please select the answers that best describe your thoughts	o t a t a ll	li tt l e	e d i u m	e r y	x t r e m e ly
1. How community-oriented do you think Rivertown is?	1	2	3	4	5
2. How close do you think you are to other people in the village?	1	2	3	4	5
3. How severe do you think the flood is?	1	2	3	4	5
4. How threatening do you think the flood is?	1	2	3	4	5

Please select the pair of circles that you feel best represents your own level of *identification* with the community in Rivertown:



Please complete the tasks on the table

Scenario One

The flood has damaged the machinery in the local waterworks. As a result, **the water supply is temporarily cut off**. The disruption is expected to be settled within a week, and during this time, the waterworks will send **a water truck** to the village every day. People can take water from the tank with their own containers.

The water in the tank is limited. People are advised to take as little as possible so that everyone in the village can have a fair share of it.

The minimum amount of water that people use for drink and food every day is **2L**.

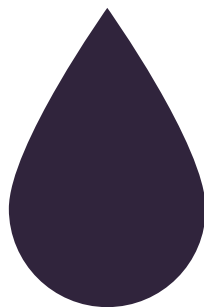
You also need water for other purposes, such as teeth brushing, dish washing, and toilet flushing. You will need **20L** of water to make your life comfortable.

However, the tank of water is **not at all enough** for everyone to take 20L of water.

In this case, how much water would you take every day (for yourself)? Suppose the water truck would be your **ONLY** source of water supply.

Please fill the jugs with water from the barrel to indicate the amount of water you would like to take.

NOTICE: 200mL of water represents 1L of water, so that you do not have to carry a heavy jug :) You can simply follow the **printed scales** on the containers. You can either fill the jugs directly or use the measure cup to fill the jugs in case the jug becomes too heavy with water.



Scenario Two

During the flood, food deliveries to local shops are disrupted. It is not long before some households experience **food shortages**. The local community centre organises a **food collection**.

You have **2kg** of rice in your house, which is enough to eat well even if the disruption were to last for a few days – having less might leave you somewhat hungry, but you could survive with as little as **200g**.

Will you donate? Please donate rice from your rice box into the donation box to indicate how much rice – if any – that you would give (the rice box is not shared by your friends, so you do not need to take them into consideration).

NOTICE: You can use the measure cup to determine the amount of rice you would give. 3 Tbs of rice is about 50g.



Scenario Three

The antecedents, consequences and trajectories of shared identity in emergencies and disasters

Since there is no water supply, the heating system is compromised as well. Your house becomes very cold.

During the night, you need to cover yourself with

four blankets to keep **warm**.

Three blankets are slightly cold.

Two blankets will leave you **cold**.

One blanket would be **very cold**.

No blankets at all could create **health risks**.

The next day, you receive a message from the local community centre, saying that they are calling for **a blanket donation**, because there are households in the community that are not prepared for the heating shutdown, and they do not have enough blankets to keep themselves warm.

You have four blankets in total, as represented by the four pieces of cloths in the basket.

Donating your blankets means that you will not be warm and comfortable at night. Will you donate? You can put the cloths in the donation box if you plan to donate some of your blankets.



Scenario Four

The flood water has washed up leaves and garbage onto the streets, and they have blocked the drainage system. The local council encourages residents to **help clean up the streets**. They propose 10 slots for both Saturday and Sunday, and each slot takes one hour.

You are relatively **flexible** at the weekend. Will you spend some time cleaning up the streets? If you will, please indicate which slot(s) do you prefer (with a “√” mark)

Help us to clean up the streets and make our community a better place!	
Saturday	Sunday
7:00-8:00	7:00-8:00
8:00-9:00	8:00-9:00
9:00-10:00	9:00-10:00
10:00-11:00	10:00-11:00
11:00-12:00	11:00-12:00
12:00-13:00	12:00-13:00
13:00-14:00	13:00-14:00
14:00-15:00	14:00-15:00
15:00-16:00	15:00-16:00

16:00-17:00	16:00-17:00
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At last, we need some demographic details from you.

Please remember, you can omit any questions without giving any explanation.	
Age	
Gender	
Marital status	
Nationality	
Education level	
Any INDIRECT experience of flood (e.g., from friends or family members)	

Do you have any comments about this study?

Appendices



Thanks again for your participation!

APPENDIX 5: TEXT OF THE VIDEO IN STUDY 4

Links for the videos:

Community: <https://youtu.be/DrmnNQBfj-Q>

No Community: <https://youtu.be/yOXhLSrgxwQ>

Background

Intro	<p>Thank you for your participation. 4</p> <p>In this experiment, we want to describe some events to you and consider how you would respond. 9</p> <p>It is very important that you immerse yourself in these events and get as rich a sense as possible of what you would think and how you would feel as well as what you would do. 13</p> <p>So, you are a resident of Rivertown. 5</p>
Description of Rivertown	<p>Rivertown is a scenic village on the banks of the River Flow, some 14 miles from the nearest town.</p> <p>This is the map of Rivertown.</p> <p>You live here.</p>
Living in Rivertown	<p>You moved into Rivertown last year and you live in a small house on your own.</p>

	<p>On moving into Rivertown you discovered that most people work in the city.</p> <p>It is effectively a dormitory village, so people do not know each other well.,</p> <p>But you like the village. It is a great place to live.</p>
The flood	<p>Rivertown is in the west of the country. It has a mild climate but is known for being very wet. It has high annual rainfall, often concentrated in intense bouts in the autumn and winter</p>
	<p>This winter, however, it is wetter than people can remember. It has been raining on and off for over a month. The ground is saturated. The water levels are high. There is now nowhere for the excess water to go.</p>
	<p>And now, for the last week, it has rained continuously. The river is getting dangerously high. It has reached a mark on the village bridge that hasn't been seen in the last 30 years. There is a real prospect of flooding if the rain doesn't stop soon.</p>
	<p>The weather forecasters say that if it continues to rain for the next 48 hours, the river will breach its banks and the village will be flooded. The good news is that the present bad weather system has played itself out. The bad news is that there is a new system coming over</p>

	<p>the Atlantic, but it looks unlikely that it will pass over the local area.</p>
	<p>The rain stops. Everyone breathes a sigh of relief. But then the news comes that the new low pressure system has changed direction and is heading right over Rivertown.</p>
	<p>The rain starts again, heavier than ever. And it does not stop.</p>
	<p>As you go to bed, the first reports come in that the flood defences have failed, and the river is starting to burst its banks. The Council sends out a message that people should be prepared for a flood.</p>
	<p>When you wake up in the morning, you find that the village is severely flooded.</p> <p>The water on the roads is about two or three feet deep on average, and it can go up to four or five feet in some places.</p> <p>This is making it dangerous for vehicles to drive through or for people to walk around.</p> <p>Moreover, the water is beginning to spill into people's houses. There is a real risk of serious injury or even death if people go near the river.</p>
	<p>As the day continues, things get worse.</p> <p>The water rises.</p>

	<p>It is hard to go out and dangerous to go to parts of the village near the river.</p> <p>In your own house, the water has come in.</p> <p>You spend the day moving valuables upstairs, but the downstairs is under a couple of feet of dirty water</p> <p>Everything – carpets, furniture, walls - is ruined.</p> <p>This is typical of the village as a whole.</p>
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Manipulation

Solidarity	No solidarity
<p>The reaction is striking. The residents show amazing energy, working tirelessly together to deal with the effects of the flooding on the village</p>	<p>The reaction is striking. The residents show amazing energy working tirelessly to deal with the effects of the flooding on their houses</p>
<p>The community shows great resilience. People help each other out, even complete strangers come together to ensure that the damage in the village is minimized, that no-one suffers, that everyone has food. In fact</p>	<p>People show great resilience. They work very hard to ensure that the damage to their properties is minimized, that no-one in their family suffers and that they don't go hungry.</p>

the residents set up a kitchen at the community centre proving sandwiches for everyone.	In fact people go great distances to get food to feed themselves
Neighbours, who may never have talked to each other before, help each other to move furniture and valuables. Some people's houses are so ruined that nothing, not even the beds, are dry. It is striking how other residents don't hesitate and take them in, offering food and shelter.	Neighbours compare damage and carry on with moving furniture and valuables. Some people's houses are so ruined that nothing, not even the beds are dry. It is striking how, even despite this, people stay and soldier on.
People become closer during the flood. Strangers become friends. People smile and routinely ask if they can help their fellow residents	People withdraw into themselves during the flood. They are so concerned with their own plight, they have no time to think of or care for others.
In general, people in Rivertown are very united during the flood. They help each other to fight against the disaster.	In general, people in Rivertown are not very united during the flood. They depend on their own resources to fight against the disaster.

APPENDIX 6: MATERIALS AND INSTRUCTIONS FOR STUDY 4

Thank you for your participation

Before you watch the video, please complete the following questionnaires.

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is <i>true (T)</i> or <i>false (F)</i> as it pertains to your personality.	
1. It is sometimes hard for me to go on with my work if I am not encouraged.	
2. I sometimes feel resentful when I don't get my way.	
3. On a few occasions, I have given up doing something because I thought too little of my ability.	
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.	
5. No matter who I'm talking to, I'm always a good listener.	
6. There have been occasions when I took advantage of someone.	
7. I'm always willing to admit it when I make a mistake.	

8. I sometimes try to get even rather than forgive and forget.	
9. I am always courteous, even to people who are disagreeable.	
10. I have never been irked when people expressed ideas very different from my own.	
11. There have been times when I was quite jealous of the good fortune of others.	
12. I am sometimes irritated by people who ask favors of me.	
13. I have never deliberately said something that hurt someone's feelings.	

Listed below are some characteristics that may describe a person:

Caring

Kind

Fair

Friendly

Generous

Hardworking

Helpful

Honest

Compassionate

Please answer the following questions from 1 (<i>Strongly disagree</i>) to 5 (<i>Strongly agree</i>)					
1. It would make me feel good to be a person who has these characteristics.	1	2	3	4	5
2. Being someone who has these characteristics is an important part of who I am.	1	2	3	4	5
3. I would be ashamed to be a person who has these characteristics.	1	2	3	4	5
4. Having these characteristics is not really important to me.	1	2	3	4	5
5. I strongly desire to have these characteristics.	1	2	3	4	5

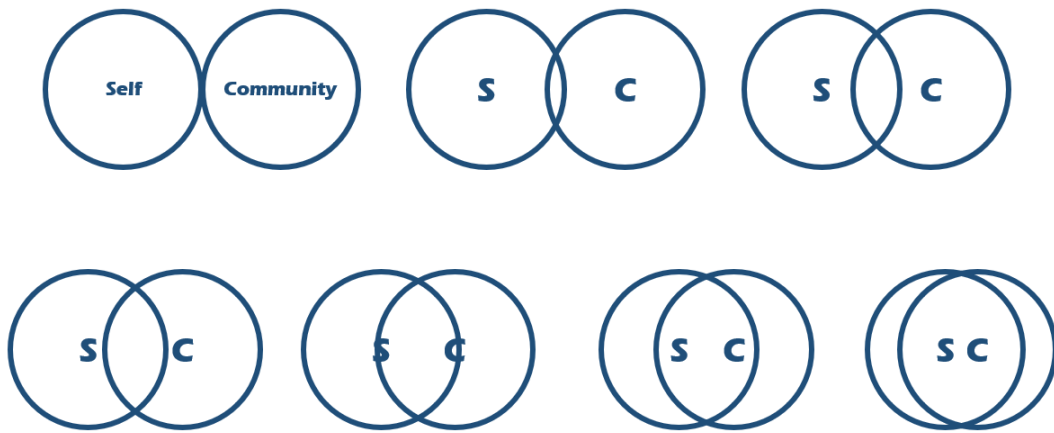
Please watch the video

Return to this answer sheet and continue after being instructed
by the video

Now, please complete the following questionnaires.

<p>Please select the answers that best describe your thoughts</p>	<p>o t a t a ll</p>	<p>li tt l e</p>	<p>e d i u m</p>	<p>e r y</p>	<p>x t r e m e ly</p>
<p>1. To what extent do people in Rivertown support each other during the flood?</p>	1	2	3	4	5
<p>2. How united do you think people in Rivertown are during the flood?</p>	1	2	3	4	5

Please select the pair of circles that you feel best represents your own level of *identification* with the community in Rivertown:



Please complete the tasks

After completing the tasks, please respond to the final two questions

1. To what extent did you complete the tasks with the notion that the flood happened a few days ago and people were still in trouble?

Not at all					Completely in the right timeframe				
1	2	3	4	5					

2. At last, we need some demographic details from you.

Please remember, you can omit any questions without giving any explanation.	
Age	
Gender	
Marital status	
Nationality	

Education level	
Any INDIRECT experience of flood (e.g., from friends or family members)	

Do you have any comments about this study?
Empty space for comments

Thanks again for your participation!

Before you start with your tasks, it is important to remember that:

Now is roughly a week after the flood

The water has almost subsided

People in Rivertown are recovering from the flood but there are still many problems waiting ahead of you and the others



Before you start with your tasks, it is important to remember that:

Now is roughly **one year after the flood**

No more floods have happened during the year

People have returned to their normal life for months



Task One

There is a lot of rubbish in the local parks which makes them unsightly and even unsafe for children to play in. The local resident association appeals to the community to help in a “clear up” to restore the parks as a pleasant and usable local amenity. The association propose 10 slots for each day of the weekend, and every slot takes one hour (see the poster and timesheet). They encourage people to donate as much time as possible.

You are free this weekend and you have not planned anything yet.

Will you spend some time cleaning the parks? If you will not, please proceed to Task Two. If you will, please tick the boxes on the timesheet to indicate which slots you prefer, and then go to Task Two.

Task Two

The **local community hall** has fallen into disrepair. It has become very shabby. It lacks resources and unless the basic infrastructure is improved, it is in danger of being **closed down** entirely.

You pass a stall where the local community council is appealing for funds to refurbish the hall (**see the poster**).

You have just taken out **£100** from the cash machine for the weekend.

Will you donate some money to them? If you will not, please proceed to Task Three. If you will, please use the toy bills & coins in the wallet* to donate, and then go to Task Three.

* You have **£50×1, £20×1, £10×2, £5×1, £2×1, £1×3** in the wallet, so you can donate any amount of money between 1 and 100 in pounds.

Task Three

You go to the supermarket for a shopping to **stock up on staples**. You have bought a lot of food, **far more than you need immediately**. On your way out of the supermarket, you see a donation place for the local food bank.

Will you donate some of your food to the food bank? If you will not, please go back to the previous answer sheet. If you will, please put the items* you want to donate into the donation box, and then go back to the answer sheet.

* The items are tagged with prices to give you an idea of roughly how much each item costs.