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What lies beyond social capital? The role of social psychology in building community resilience to climate change

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Abstract

Climate change is increasing the prevalence and impact of extreme events, which may have severe psychosocial after-effects for the people and communities who are affected. To mitigate their impact, governments advocate developing community resilience. Most approaches to community resilience employ the concept of social capital, suggesting that communities with more dense pre-existing networks of trust and reciprocity are more likely to prepare for, respond to, and recover more effectively from disasters. Notwithstanding its benefits, we argue that social capital cannot account for microprocesses of disaster behaviour such as groups that emerge in absence of any pre-existing ties and provide social support. We propose a new conceptualisation of aspects of community resilience based on the social identity approach in social psychology and grounded upon the principles of collective psychosocial resilience – the way that shared identification allows groups to emerge, coordinate, express solidarity and provide social support. We argue that our approach overcomes the limitations of social capital, because it can explain the processes of group behaviour in disasters, acknowledges people's propensity to organise collectively, promotes bottom-up approaches to community resilience, recognises emergent communities, and suggests evidence-based recommendations for policy and practice. Finally, we propose an agenda for future research.

Introduction

Climate change is increasing the frequency and intensity of extreme weather events and disasters, such as floods, droughts, heat waves, and hurricanes globally (UNISDR, 2015), which can negatively impact upon both physical and mental health (Costello et al., 2009; Hayes, Blashki, Wiseman, Burke, & Reifels, 2018; McMichael, Berry, & Butler, 2014). One of the strategies employed to mitigate the impact of climate change is the development of community resilience (Cabinet Office, 2011; UNISDR, 2015).

In this article, we argue that the concept of community resilience can be enriched by considering group psychology. First, we provide an overview of the psychosocial impact of climate change and discuss the theoretical framework of social capital (Aldrich, 2017; Dynes, 2006; Helliwell & Putnam, 2004; Helliwell, Huang, & Wang, 2014), which underpins most current approaches to community resilience. Despite its usefulness, we argue that the concept cannot account for the dynamic processes of collective behaviour often observed in disasters. Instead, we suggest a model grounded upon the principles of the social identity approach and particularly the self-categorization theory (SCT) in social psychology (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). The model draws from the concept of *collective psychosocial resilience* (Drury, 2012, 2018, Williams & Drury, 2010, 2011), which refers to the ways that shared identification allows groups [of survivors] to express solidarity and cohesion, coordinate, and draw upon collective sources of support and other practical resources to deal with adversity. We argue that this model can account for dynamic intra- and inter-group disasters behaviours and significantly complement current understandings, policies, and practices regarding community resilience.

Climate change, flooding, and its psychosocial effects on mental health

Climate change is considered to be one of the main five factors that can significantly impact upon global development (World Economic Forum, 2017) and global wellbeing

(IPCC, 2014). It is highly likely to intensify extreme weather events such as droughts, hurricanes, sea level rises, heatwaves, storms, and flooding (Environment Agency, 2015; Lindley et al., 2011; Twigger-Ross et al., 2015). These events are likely to have an impact on health by, for example, increasing health inequalities, malnutrition, increased infections and diseases or air pollution (Environment Agency, 2015; Haines & Patz, 2004), as well as increase the prevalence of mental health problems such as distress, grief, anxiety states, depression, PTSD, and suicide (Berry et al., 2018; Committee on Climate Change, 2014, 2015; Hayes et al., 2018).

Extreme events can impact upon wellbeing but also on people's mental health in ways that are far from straightforward, which we briefly summarise by using flooding as an example. We choose flooding because: *a*. it is the most common weather-related incident worldwide (Few, 2007) - 50 of 53 countries and approximately 3.4 million people in the WHO European region have, for example, been affected by flooding during the past decade. Meanwhile, during the past 30 years, more than 200,000 people were killed and around 2.8 billion were affected by flooding worldwide (WHO Regional Office for Europe, 2013); *b*. there is evidence that climate change is increasing the prevalence and severity of floods (Alfieri, Dottori, Betts, Salamon, & Feyen, 2018; WHO Regional Office for Europe, 2013); *c*. it can have severe and long-lasting psychosocial impacts (Jermacane et al., 2018; Stanke, Murray, Amlôt, Nurse, & Williams, 2012; Walker-Springett, Butler, & Adger, 2017).

The impact of flooding is caused through both 'primary' and 'secondary' stressors. Primary stressors refer to stressors '*inherent in particular major incidents, disasters and emergencies, and arising directly from those events*' (Department of Health, 2009, p. 20) such as deaths or watching someone dying, having one's house flooded, or sustaining physical injuries such as cuts, fractures, punctures, electric shocks, and diarrhoeal diseases (for an extended discussion see Ahern and Kovats, 2007). Secondary stressors refer to

stressors '*following from and are consequential on what has taken place*' (Department of Health, 2009, p. 20). Secondary stressors include economic difficulties such as loss of employment and reduced property values, difficulties in claiming back compensation from insurance companies, difficulties in rebuilding homes, loss of physical possessions, new or re-appearing and persisting health conditions, lack of access to health-care facilities, loss of social networks and social support, loss of control over one's life, and fear of recurrence of the event (for a detailed typology see Lock et al., 2012). Secondary stressors can arise from the organisation of society and the inadequacy of its response to the disaster.

The stressors inherent in flooding can have a severe impact on people's wellbeing and mental health (Extreme Events and Health Protection Public Health England, 2014; Stanke et al., 2012) and can result, among others, in depression, anxiety disorders and PTSD (Ahern & Kovats, 2007). Secondary stressors are associated with increased prevalence of depression, anxiety disorders and PTSD (Tempest, English National Study on Flooding and Health Study Group, Carter, Beck, & Rubin, 2017). Moreover, flood recovery is far from a straightforward process (Medd, Walker, Mort, & Watson, 2010), and the persistence of secondary stressors is directly associated with damage that can last for a long time after the waters recede (Stanke et al., 2012). Flooded residents and people whose lives were disrupted by a flood despite no water entering their homes reported higher odds of anxiety disorders, depression, and PTSD compared to non-affected residents one and two years after a flood (Jermacane et al., 2018; Waite et al., 2017). Psychosocial morbidity following flooding has been associated with people's experiences of: ongoing property damage (Jermacane et al., 2018); homelessness; disruption of social relationships; loss of possessions (Carroll, Morbey, Balogh, & Araoz, 2009); disruption of people's 'sense of place' (Tapsell & Tunstall, 2008); and their perceived lack of agency during the response and recovery processes (Walker-Springett et al., 2017). Deterioration of people's social networks and their reduced expectations of support have also

been identified as significant predictors of mental health problems (Kaniasty & Norris, 1993; Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008).

This brief overview provides a clear picture of the complex relationships between environmental, social, psychological and behavioural factors stemming from events that are likely to be intensified due to the effects of climate change. Our attention will now shift towards the strategies employed to mitigate those negative impacts.

Developing community resilience: Current theoretical approaches and their limitations

During the past decade, there has been a move towards active risk reduction to accompany responding to and managing disasters. This parallels general endeavours to achieve a new balance between preventing ill health and caring for people who are ill. Preventing illness and reducing the risks that cause or arise from climate change may both feature public health approaches.

One strategy is to develop community resilience with the intention of protecting people and communities against the structural and psychosocial impacts of climate change (Twigger-Ross et al., 2015). The Sendai Framework for Disaster Risk Reduction (UNISDR, 2015), adopted by the Third United Nations World Conference in 2015, explicitly states that '*it is urgent and critical to anticipate, plan for and reduce disaster risk in order to more effectively protect persons, communities and countries, their livelihoods, health, cultural heritage, socioeconomic assets and ecosystems, and thus strengthen their resilience.*' (p. 10). Calls to enhance the resilience of communities can also be observed in UK policy and guidance. The Pitt review, written after the floods in the UK in 2007, acknowledged the need to enhance the resilience of communities (Pitt, 2008, p. xxxiv). Also, the Strategic National Framework on Community Resilience (Cabinet Office, 2011) '*demonstrates the Government's commitment to enhancing our [the UK's] national security, including by seeking to build and develop the existing structures and capabilities with a contribution from interested members of the public*

to strengthen resilience at a local level' (p. 4). The Strategic National Framework on Community Resilience (Cabinet Office, 2011) is a component of strategies created to meet the requirements of the UK's Civil Contingencies Act 2004 (HMSO, 2004). It acknowledges the propensity of the public to offer support during emergencies (Cole, Walters, & Lynch, 2011), recognises the likelihood of local emergency responders being unable to assist everyone in need in the event of a major incident as well as communities' agency as an element to be facilitated and harnessed, and addresses their need to be, to some degree, self-sufficient and to collaborate with local authorities when dealing with emergencies (Cabinet Office, 2011).

However, the literature also records scepticism about governments' intentions in laying so much responsibility on communities. MacKinnon and Derickson (2012) argue for example that the UK community resilience agenda promotes self-reliance and shifts risk management towards communities, which can reduce the responsibility and accountability of the state in relation to protecting communities against disasters (Chandler, 2013, 2014). Nevertheless, current thinking about community resilience recognises that people react well when a disaster strikes (Quarantelli, 1999). The resilience framework is positioned as opposite to vulnerability, which emphasises the public's proneness to psychosocial damage (Durodié & Wessely, 2002). It emphasises the public's collective capacity for organising provision of support, the resourcefulness of communities and the potential of survivors to recover from extreme incidents (Wessely, 2004; Wessely, 2005). It also largely discredits earlier pathologizing of collective behaviour (Strauss, 1944, also see Bendersky, 2007) that can lead to vulnerability-led, top-down approaches that exclude input from the public, ignore its capacity for resilience, and limit participation (Furedi, 2008).

Community resilience as a process

Calls to develop community resilience have not been unproblematic. An ongoing multi-disciplinary debate concerns the definition of community resilience (Furedi, 2008; Patel, Rogers, Amlôt, & Rubin, 2017). The discussion revolves around definitions of community resilience that are often contradictory and conflicting (e.g. *dynamic vs. stable*; *equilibrium vs. evolution*; *process vs. outcome* to name a few), with some authors expressing pessimism with regard to the 'revolutionary' capacity of the paradigm (Alexander, 2013) or in relation to researchers' attempts to come to a definite conclusion about any 'real' meaning of resilience (Ntontis, Drury, Amlôt, Rubin, & Williams, 2018a).

Some researchers argue that conceptualising community resilience as an adaptive process (Abeling et al., 2019; Norris et al., 2008) can be more beneficial compared to a view of the concept as merely an outcome. Norris et al. (2008) define community resilience as, '*a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance*' (p. 130). The authors analyse definitions of community resilience and its comprising elements, suggesting that, '*resilience is better conceptualized as an ability or process than as an outcome*' as well as that, '*resilience is better conceptualized as adaptability than as stability*' (p. 130). In the same manner, Abeling et al. (2019) state that a dynamic approach to community resilience is less reductionist compared to older, outcome-based approaches, since it paves the way for the exploration of adaptive community processes and to identifying specific indicators. Almedom (2013) also states that the development of resilience should not be perceived as solely the responsibility of experts and outsiders; rather, it is dependent upon the processes of emergence, self-organisation, and self-governance, elements that cannot be taught (Furedi, 2008) but only be enhanced and assisted by interventions through policy and practice. Viewing resilience as a process can be particularly helpful since it avoids reification of the concept and its treatment as a definite and inherently

unchanging element., allowing for the adoption of a systemic approach (Berry et al., 2018) by exploring a range of psychosocial processes that can operate as the adaptive capacities to support effective functioning and 'bouncing forward' after a disaster.

Patel et al. (2017) conducted a systematic literature review of 80 papers that contained definitions of community resilience. They identified the core elements that appear across the definitions, which consist of the local knowledge of communities, community networks and relationships, effective communication, pre- and post-disaster health, leadership, the available resources, economic investment, preparedness, and mental outlook in the face of adversity. The authors conclude by stating that it might be appropriate '*to abandon the search for a single, precise definition of community resilience*' (p. 10), and, instead, mention that it might be best for academics, practitioners, and policymakers, '*to be explicit as to the particular elements of resilience they are focusing on in their research or interventions*' (p. 11), since, '*all-encompassing definitions* […] *may be too complex to apply at the local level*' (p. 10).

Ntontis et al. (2018) explored how community resilience was presented in 28 UK guidance documents published between 2006 and 2016, showing that some documents considered community resilience to be the absence of illness, the opposite of vulnerability, a static and unchanging element, or, in a circular way, both a cause and an outcome. Other documents avoided generalisations and identified specific cognitive, behavioural, psychological and relational elements. The authors concluded that a process-based approach that clearly targets specific elements that can enhance the coping and recovery of communities can be more fruitful for operationalising the concept's in policy and practice. Similar observations come from other researchers who support that emphasis should be placed upon the ways that community resilience can be achieved in practice, rather than debate about the meaning of the term (Fazey et al., 2018).

Community resilience and social capital

Shifting the debate from universal definitions of resilience as describing good outcomes towards a process-based approach requires a closer look into its constituent elements as well as their limitations. Notably, despite past disaster management approaches that paid significant attention to tangible assets, recent calls ask for social aspects of community resilience to be considered including community networks, connections, and particularly the relationship between communities and authorities (Aldunce, Beilin, Handmer, & Howden, 2014). In their influential paper, Norris et al. (2008) discuss four interlinked primary sets of resources that are related to community resilience, namely economic development, social capital, information and communication, and community competence (see Norris et al., 2008 for an extensive discussion). As we explain, social capital is the most widely used concept in contemporary theory and practice for community resilience.

There have been many approaches to social capital in relation to community resilience (Shreve & Fordham, 2019). Social capital is defined as, '*the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition*' (Bourdieu, 1986, p. 21). Other researchers have used the term to refer to the ways in which trust, social bonds, and norms of reciprocity that stem from dense social networks can benefit society (Helliwell & Putnam, 2004; Putnam, 1993, 1995) by increasing communities' effectiveness in dealing with unexpected incidents (Aldrich, 2017; Aldrich & Meyer, 2014), reducing opportunism and increasing social interaction and collective action (Aldrich & Meyer, 2014; Putnam, 1995; Putnam, 2000), increasing happiness and wellbeing in times of crisis (Helliwell, Huang, & Wang, 2014), and contributing to a stronger sense of community, place attachment, and active participation (Norris et al., 2008).

Communities that are involved in disasters are usually characterised by a sense of continuity and creativity, which has been associated with the robustness of social capital embedded within existing networks and social relations (Dynes, 2006). Strong social capital has proven to be a valuable resource for the response, recovery, and future preparedness of affected communities. For example, Dynes (2006) suggests that community knowledge and resources can be used to develop residents' skills that are useful in future responses to disasters, which can enhance people's sense of responsibility towards the community. Similarly, social capital in the forms of higher perception of fairness and trust in the community has been associated with higher rates of disaster preparedness (Reininger et al., 2013). Referring to disaster response, Aldrich (2017) showed how different types of social capital contributed to mass mobilisation and collective action in the aftermath of the Christchurch earthquake sequence of 2010-11 in New Zealand. Aldrich (2017) argued that pre-existing networks and trust can enhance mutual assistance and social support among neighbours when social and material resources are not accessible, as well as motivate people to take mitigation measures. Also, communities with stronger pre-existing networks can make faster and better recovery due to increased allocation of resources and residents' increased motivation to support people in need, whereas lack of connections with more affluent groups outside the affected area can negatively affect the presence of resources (Elliott, Haney, & Sams-Abiodun, 2010). Also, networks of communities of different socioeconomic status can provide the people affected with more information and resources in the aftermath (Hawkins & Maurer, 2010). There are cases in which low-income communities but with high levels of connectedness resulted in impressively rapid recovery from flooding due to the enhanced allocation of resources and coordination (Chamlee-Wright & Storr, 2009). Social capital can also support the cohesiveness of communities because people who have stable place attachment and dense social networks are more likely to rebuild their

damaged property and less likely to relocate (Aldrich, 2017). Social capital is also positively related to less deteriorated mental health after disasters (Wind, Fordham, & Komproe, 2011).

Social capital is widely used in UK documents on community resilience, such as the Strategic National Framework on Community Resilience (Cabinet Office, 2011). Similarly, a report on the effects of climate change, including flooding, on wellbeing, states that the levels of social capital can help understand communities' response and are a key factor of resilience (Twigger-Ross et al., 2015). On the contrary, communities with lower levels of social capital are likely to be more severely affected (Lindley et al., 2011) and more prone to trauma (NATO Joint Medical Committee, 2009). From the above it becomes apparent that the concept has diffused within the realms of public policy.

Limitations of the social capital approach

Despite the clear benefits of strong social networks for community resilience in extreme events, there are limitations associated with relying solely on this approach for tackling the negative impact of climate change.

First, examining flood affected communities in Australia, Wickes, Zahnow, Taylor, & Piquero (2015) found that while social capital reduced social problems under normal circumstances in both affected and unaffected communities, contrary to the literature, there was no added effect of social capital in further reducing social problems specifically in post-flood environments. These authors suggest that, while social capital might have played an important role in bouncing back, its effect can be limited compared to the financial assistance provided by disaster relief initiatives and well-resourced systems of governance. This is related to the importance of economic development (cf. Norris et al. 2008) for community resilience, which refers to the levels and diversity of economic resources as well as equity in their distribution.

Second, Norris et al. (2008) refer to community competence as another adaptive capacity within community resilience. It comprises community action, flexibility, collective efficacy, and empowerment. However, current theorising on community resilience is less specific about the mechanisms which underlie the operation of social capital and lead to community action in the face of adversity (Shreve & Fordham, 2019). Wickes et al. (2015) suggest that the beneficial aspects of richer and stronger social ties do not exist a priori but are manifested when community members organise and undertake specific social actions on behalf of their community. For example, empowerment in the form of collective community mobilisation can be a key factor for coping with the effects of climate change, and there have been calls for further exploration of its underlying processes (Costello et al., 2009). Uekusa (2017) and Solnit (2009) have discussed the spontaneous creativity and resourcefulness that often characterise disaster communities. Uekusa (2017) has argued that such unexpected capitals cannot be explained by social capital defined as pre-existing bonds. The latter is limiting in its explanatory power, and it has been suggested that the micro-level practises of people's behaviour during and after disasters that can lead to community resilience should be further explored.

A third limitation of social capital-based community resilience approaches concerns the definition of 'community' itself. Usually, communities are identified as entities within specific established geographical boundaries (Norris et al., 2008). The Strategic National Framework on Community Resilience (Cabinet Office, 2011), for example, addresses four types of communities namely 'geographical communities,', 'communities of interest', 'communities of supporters', and 'communities of circumstance'. The first three are types of pre-existing communities and are those mainly considered by the framework. 'Communities of circumstance' appear in the document as '*created when groups of people are affected by the same incident, such as a train crash. These groups of individuals are unlikely to have the*

same interests or come from the same geographical area but may form a community in the aftermath of an event.' (Cabinet Office, 2011, p. 12). These seem to operate over and above any geographical or pre-existing social borders and include people who have been affected in a similar way (Drury, Brown, González, & Miranda, 2016; Drury, Cocking, & Reicher, 2009b, 2009a), and also appear as 'communities of sufferers' (Fritz, 1961/1996), as 'therapeutic communities' (Coates, 2010; Fritz, 1961/1996), and as 'altruistic communities' (Barton, 1969). However, due to its reliance on social capital, the Cabinet Office Framework is unable to consider the processes that lead to the emergence and operation of such communities and how they can be incorporated in policy and practice, eventually dismissing emergent groups and spontaneous solidarity as a source of community resilience.

Emergent disaster communities

Emergent communities have been observed in a wide range of disasters. Solnit (2009) described this phenomenon in disasters that span more than 90 years, including the 1906 San Francisco earthquake, the 1917 Halifax explosion, the 1985 Mexico City earthquake, the September 11 attacks in New York City in 2001, and Hurricane Katrina in New Orleans in 2005 (for Hurricane Katrina also see Rodriguez, Trainor, & Quarantelli, 2006). What these disasters and numerous other similar incidents have in common is the solidarity and altruism of groups of people demonstrated through sharing resources, helping injured people, organising collectively, and putting their own lives at risk. Quarantelli (1999) has argued that the groups that emerge despite the lack of any pre-existing structure '*play crucial roles in the crisis period of a disaster*' (p. 6).

Disaster researchers have long recognised the relation between shared fate and solidarity. Fritz and Williams (1957) say that in disasters, '*the sharing of a common threat to survival and the common suffering produced by the disaster tend to produce a breakdown of pre-existing social distinctions and a great outpouring of love, generosity, and altruism*' (p.

48). Common suffering can make people see each other as equals with similar needs for support, which, at least for the acute emergency phase, can render pre-existing group boundaries irrelevant and mobilise altruistic behaviours (also see Clarke, 2002; Kaniasty & Norris, 1999; Solnit, 2009). A primary characteristic of emergent communities is that they are only temporary and decline after the main disastrous event. This decline has been attributed to the experience of common suffering among disaster survivors (Fritz & Williams, 1957). After the initial increase in solidarity, the old problems re-emerge (Quarantelli, 1999) and the social support that seems abundant in the early disaster phases can be unequally distributed or affected by pre-existing inequality, economic, and political factors (Kaniasty & Norris, 1999; Norris & Kaniasty, 1996).

Investigation of emergent disaster communities and of their progress following their emergence can provide useful insights into policies for community resilience. Current research into immediate responses to disasters acknowledges the ability of people to offer their support to survivors before emergency responders and health services arrive (Cole et al., 2011). Crowds have been described as 'zero responders' (Lemyre, 2010), and it has been suggested that the emergent solidarity of and support offered by uninjured bystanders should be treated as a resource rather than something to be controlled and avoided (Cocking, 2013; Drury et al., under review; Drury, 2012). The Sendai Framework for Disaster Risk Reduction (UNISDR, 2015) calls for greater involvement of the public in relief and recovery activities, with evidence showing that harnessing emergent groups can be enhanced through the presence of anticipatory structures that link and involve emergent groups with existing structures (Waldman, Yumagulova, Mackwani, Benson, & Stone, 2017). Similar calls come from flood risk management, and there are suggestions that more information and greater involvement of the public can result in improved decision-making, positive social outcomes,

and increased legitimacy (for an extended discussion see Challies, Newig, Thaler, Kochskämper, & Levin-Keitel, 2015). This raises the contemporary concept of coproduction.

However, apart from persisting myths regarding the behaviour of crowds in disasters (Lorenz, Schulze, & Voss, 2017), inability to collaborate is exacerbated by a widespread understanding of disaster organisation as based on formal structures rather than newly emergent ones (Strandh & Eklund, 2017). Notwithstanding those problems, accommodating the public's emergent organisation in the response and recovery phases of major incidents is increasingly seen as an important source of community resilience. Also, the dynamic nature of disaster response, the various roles that different groups (e.g. emergent groups, existing community groups, emergency responders) can play, and particularly the ways that intra- and inter-group relations can shape subsequent behaviours call for a more dynamic approach to community resilience.

Explaining emergent groups: Social identity and collective resilience

Despite the commonality of emergent groupness in extreme events, sociological accounts cannot explain the underlying psychological processes and behaviours of spontaneous solidarity behaviours. The *social identity model of collective psychosocial resilience* (SIMCPR; Drury, 2012, 2018, Williams & Drury, 2009, 2010) offers itself as a distinctive framework for understanding solidarity in disasters by placing shared social identity at the centre of the analysis. The model is based on the principles of the *self-categorization theory* (Turner et al., 1987), which delineates the conditions under which people come to perceive themselves as members of social groups (Turner, 1985; Turner et al., 1987). It also identifies the consequences of psychological group formation and can help us to explain empirically how groups emerge, mobilize, and provide important social support in extreme events. The centrality of social identity in relation to resilience and wellbeing is what

makes the model a part of the 'social cure' approach (Haslam, Jetten, Cruwys, Dingle, & Haslam, 2018; Jetten et al., 2017).

In SCT, the self is fluid and variable (Turner, Oakes, Haslam, & McGarty, 1994), dependent on the social contexts in which we find ourselves, and can be defined at different levels of abstraction (Reicher, Spears, & Haslam, 2010; Turner, 1982). SCT proposes that it is precisely the presence of a shared social identity that enables collective behaviour as well as the perception of elements such as unity, togetherness, solidarity, and community spirit (Turner, 1982; Turner, 1985; Turner et al., 1987). Drawing on the social identity model of crowd behaviour (Neville & Reicher, 2018; Neville & Reicher, 2011; Reicher & Drury, 2010), crowds are distinguished between 'physical' and 'psychological' (Neville & Reicher, 2018; Neville & Reicher, 2011; Reicher & Drury, 2010). Physical crowds are aggregates of people located in the same space without any sense of psychological connection, whereas people in psychological crowds share a social identity.

Under certain conditions, people can shift from perceiving themselves as individual persons or members of small groups of previously affiliated people to seeing themselves as members of crowds who are connected by a common group-based self-definition (Turner et al., 1987). A number of criteria for collective self-categorisation have been proposed (Turner, 1982; Turner, 1985; Turner et al., 1987), including people experiencing common fate, shared threat, proximity, similarity, shared interests, positive interdependence, and cooperation (Turner & Bourhis, 1996, p. 34; Turner, 1982). Analyses of crowd conflict based on a social identity approach have shown, for example, that when separate small groups experienced indiscriminate police action against them, group boundaries expanded and previously fragmented protesters came to see themselves as one in relation to the police (Reicher, 1996; Stott & Drury, 2000; Stott & Reicher, 1998).

SIMCPR adopts a similar framework and treats common fate as an antecedent of shared social identities in explaining emergent groupness and collective behaviour in disasters. For the model, it is the presence of an emergent shared social identity that can explain the formation of emergent communities and the behaviours that imply solidarity. Due to contextual changes that give rise to a perceived common fate, people who perceive themselves as individuals can come to see themselves as group members and as more similar to each other. In other words, the shared experience of adversity can give rise to a shared social identity and transform a physical crowd into a psychological crowd. There is a shift from 'me' in relation to 'others' to 'us' versus the disaster (Drury, 2012, 2018).

SIMCPR also suggests the effects of shared social identities on people's behaviour, cognition, and perceptions. The emergent sense of togetherness with other people is a direct outcome of the shift from 'me' to 'we' and entails three key psychological transformations – at the cognitive, relational, and affective levels (Drury, 2012, 2018; Reicher & Drury, 2010) that can explain group behaviour. The process through which shared social identity emerges and the transformations that follow are presented in Figure 1.
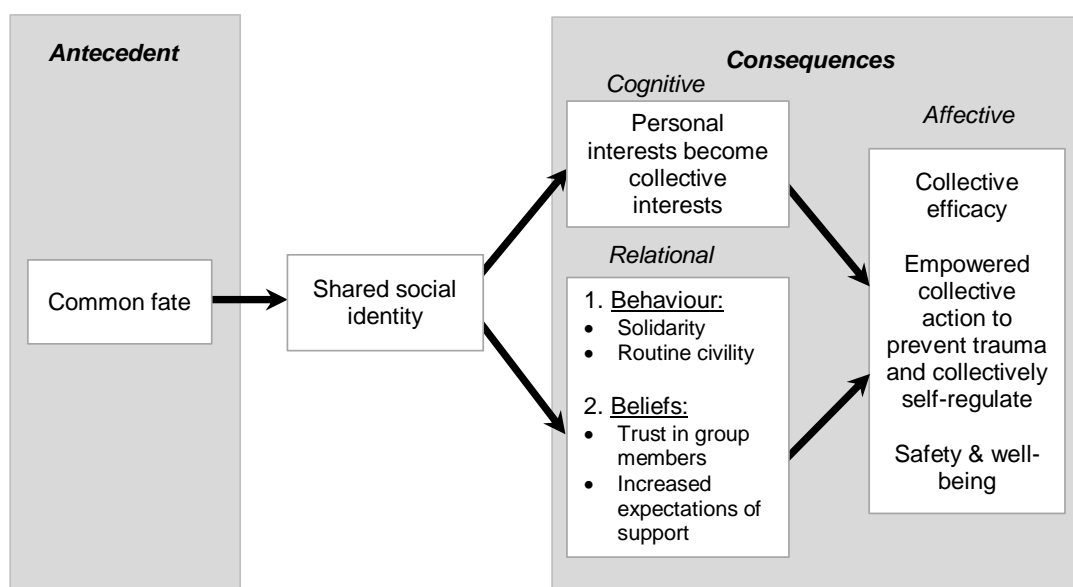

Figure 1. A social identity model of collective psychosocial resilience in emergent groups in disasters. Figure adapted from Drury (2012, 2018) and Haslam, Jetten, Cruwys, Dingle, and Haslam (2018)

At a *cognitive* level, a shift to a collective identity changes individual values and goals to collective ones. For example, self-interest changes from personal to the collective level, rendering the persons concerned for the common good of group members and re-orienting their goals. The *relational* transformation concerns the ways in which people behave towards as well as with others. There is an increase in solidarity and avoidance of personally selfish behaviours in which people provide more support for others they perceive as being members of the same category. There is also routine civility manifested as cooperation and orderly behaviour. Shared social identities may also provide group members with a mutual definition of reality, enhance agreement, and develop trust in group members' judgements (Turner et al., 1987). Last, there are increased expectations of support from others who are perceived as group members (Drury, 2012, 2018).The *affective* transformation suggests that the presence of shared goals and expectation of support from fellow group members can increase collective efficacy, a sense of empowerment, and collective coordination among group members (Drury, 2018).

Empirical evidence supporting the SIMCPR

Here, we review empirical evidence that attests to the usefulness of the SIMCPR in accounting for emergent group behaviour in disasters and mass emergencies, including those that are related to climate change. We present simulation and experimental studies as well as research conducted in real world settings. The latter cover both the response and the recovery phases and can provide useful insights about group behaviour in relation to community resilience.

Social identity processes during the disaster response phase

In one of the early studies to address social identity processes in mass emergencies and disasters, Drury, Cocking, Reicher et al. (2009) created a computer simulation of a fire in an underground railway station and focused on the interplay of shared social identity among

participants and social support for other people. The results showed that participants' identification with the crowd was related to increased helping and reduced pushing of other characters. Moreover, increased concern for other people's needs operated as a mediating mechanism between the crowd's identification and provision of social support. However, the study conceptualised shared social identity in a rather static way. Participants were assigned by the experimenters to different conditions and it was assumed that shared social identities would remain stable across the emergency. However, both identities and the social context in which behaviours occur are dynamic and can be reshaped by people's actions or other contextual changes (e.g., Reicher, 1996; Stott & Drury, 2000). Also, the experimental studies lacked ecological validity due to the lack of genuine danger that characterises mass emergencies (Drury, 2018).

In order to overcome those limitations, evidence was gathered from survivors of real emergencies. Drury, Cocking, and Reicher (2009b) analysed survivors' accounts of the London bombings in 2005 to investigate collective behaviour in the trains immediately after the explosions. Their analysis was based on secondary data available in the press and from an inquest, as well as on primary data obtained through face-to-face interviews and written correspondence with survivors. They found evidence that common fate, operating through the presence of ongoing danger, mobilised supportive behaviours between previously unaffiliated survivors, and that these behaviours were common and widespread in contrast to more selfish ones. A persistent sense of threat was also evident in both primary and secondary accounts. A sense of unity was treated as evidence of a shared social identity and was much more evident compared to accounts of disunity. Importantly, providing social support was much more evident in participants who also reported experiencing a sense of unity and 'we-ness', and their sense of common fate appeared to be linked to their experiences of a shared social identity.

Drury, Cocking, and Reicher (2009a) also conducted a comparative study of different mass emergencies including footballs stadium disasters, sinking ships, fires and bombings. Participants were asked about their sense of common fate, shared social identity, and collective and individualistic behaviours. Most participants observed social support, and most interviewees who reported a sense of unity also reported providing social support (see Drury, Novelli, & Stott, 2015). In contrast, only a small number of participants who did not report identifying with the crowd reported giving help, verifying the link between shared social identity and providing social support. Importantly, both the London bombings and the comparative study showed that shared social identities did not exist before the events occurred but *emerged* within the emergencies and became the basis for social support.

The SIMCPR has also been tested quantitatively in the context of the Chilean earthquake and tsunami of 2010. In a cross-sectional survey with 1,240 residents affected by the disaster, Drury et al. (2016) found that disaster exposure was positively related to common fate, which, in turn, was positively related to shared social identity. Shared social identity predicted provision of emotional support. Moreover, shared social identity predicted collective efficacy and providing coordinated support through expected support, which acted as a mediator. Drury et al. (2016) also found that observing others' supportive behaviour predicted people providing support, with expected support acting as a mediator between observing and providing coordinated instrumental social support. Moreover, the links between observing and providing social support were higher for high identifiers compared to low identifiers.

Social identity processes during the disaster recovery phase

The usefulness of the SIMCPR in delineating processes of mass emergency and disaster behaviour at a collective level has been particularly useful in expanding current understandings of community resilience. Ntontis et al. (2018b) used the model to explore the

processes of community mobilisation in the floods in York, UK in 2015-2016. York was hit severely by Storm Eva in late December 2015 and was flooded due to a barrier that the Environment Agency lifted in order to protect its control room from the floodwaters. The community responded swiftly, with more than 250 members of the public and 25 volunteer groups spontaneously mobilising to carry out response and recovery tasks. The community's response was welcome and was presented as evidence of a strong community spirit (The York Press, 2016). A subsequent inquiry into the flood identified the need to make use of the spontaneous voluntary sector in ways that is not likely to obstruct the official response, as well as maintaining the groups that were formed as a spontaneous response to the floods (Davies, 2017).

Ntontis et al. (2018b) interviewed 17 affected, unaffected, and indirectly affected residents almost 2 months after the floods, treating accounts of togetherness, similarity, and unity as indicators of shared social identity. Analysis showed that participants referred to perceptions of common fate that facilitated a sense of togetherness. Moreover, in their study, Ntontis et al. (2018b) extended the SIMCPR by further exploring the factors that led to the emerging sense of togetherness. For example, participants who were not directly affected reported a sense of potential common fate that gave rise to a shared social identity and motivated them to provide support to other people who were affected. Others referred to shared goals stemming from their facing common difficulties or similar secondary stressors (e.g., looting) as facilitating a sense of togetherness. This study provided initial evidence regarding social identity processes after the immediate response phase and during the early recovery period, showing that the experience of ongoing stressors in collective terms can foster a shared social identity and the positive psychosocial effects that this entails. Emerging social identity also appeared to be related to people providing different types of support. For example, participants reported that the emerging sense of togetherness facilitated practical

support (e.g. sharing resources and information), emotional support (e.g. providing other people with comfort and listening to their needs), coordination of collective support, and increased people's expectations of support in the future. Similar results come from research conducted on refugee populations, which show that the relation between ongoing secondary stressors and common fate is higher for people who have spent a longer time in exile (Alfadhli, Güler, Cakal, & Drury, 2019). This is particularly important with regards to climate change and community resilience, given that refugee populations due to climate change are increasing (UNHCR, 2016).

To explore how emergent groups persist or decline in the post-disaster period, Ntontis (2018) interviewed 19 residents affected by the 2015 York floods 15 months after the incident. He found that residents' perceptions of togetherness in the long-term post-food period varied: some perceived a decline in their shared social identity with others, which they attributed to a lack of common fate; post-flood identity shifts, whereby residents stopped seeing themselves as flood victims that previously served as a unifying factor; or perceived inequality in the post-flood treatment by the authorities which served to reinforce pre-disaster intergroup boundaries and perceived discrimination. Others perceived the sense of togetherness as persisting due to perceptions of past shared adversity, due to the persistence of secondary stressors, intentional community action such as commemorations, and due to the ongoing provision of social support that fostered a sense of belonging to a broader, caring collective. Thus, in cases where the flood survivor identity is seen as a positive, unifying factor, it is likely to be a source of community resilience.

Discussion

Our aim in this article was to provide a brief overview of the (mental) health impacts of extreme events, as well as of social capital, the core theoretical framework of the majority of modern approaches to community resilience. We highlighted its limitations and argued for a

social psychological approach to community resilience that draws on established theoretical frameworks and can provide dynamic explanations of group emergence and functioning.

In the past, theories about community resilience have been based upon the notion of social capital, noting that rich and strong pre-existing networks are more likely to prepare, respond, and recover easier to a disaster compared to more loosely connected neighbourhoods (Twigger-Ross et al., 2015). Undoubtedly this is a useful approach that is backed by strong empirical evidence. However, it comes with several caveats. First, social capital is quite descriptive in that it cannot explain the mechanisms through which networks emerge and are transformed into collective action (cf. Wickes et al., 2015). Second, it does not explain processes of emergence – how unexpected social capital emerges and how communities engage in processes of collective transformation (cf. Uekusa, 2017). This is a key point. The emergence of spontaneous groups (Clarke, 2002; Fritz, 1961/1996; Fritz & Williams, 1957; Solnit, 2009) is not a new observation in the disaster literature, but it cannot be accounted for by concepts which depend upon mobilising pre-existing networks. Thus, exploration of the microprocesses and practices that facilitate community mobilisation is required (Uekusa, 2017). The evidence presented earlier emphasizes the dynamic nature of intra- and intergroup behaviour in disasters that any theoretical framework for community resilience should be able to accommodate within a broader systems thinking framework (Berry et al., 2018). Finally, apart from geographical communities, there is a need for public policy to account for the emergence and mobilization of psychological communities, or 'communities of circumstance' (cf. Cabinet Office, 2011).

Considering the above, we argue that conceptualising community resilience as based on social identity processes of collective psychosocial resilience (Drury, 2012, 2018; Williams & Drury, 2011) can overcome the limitations of social capital approaches and provide a useful addition to existing theories, policy, and practice. The SIMCPR argues that groups'

collective behaviour in disasters depends upon the presence of a shared social identity – an emerging sense of togetherness among people. Evidence from experimental and real-world studies that used this model to explore emergent collective behaviour in disasters and mass emergencies, showed that shared social identity emerged due to people's perceptions of common fate and became the basis of cognitive, relational, and affective transformation among survivors. Thus, the SIMCPR is well suited to explore the processes of group behaviour in disasters (cf. Wickes et al., 2015). The concept of social identity can account for the behaviours of both structured groups (e.g., due to similarity or proximity) *and* unstructured emergent groups and 'therapeutic communities' (Fritz, 1961/1996; Fritz & Williams, 1957). It can also explain the outcomes of shared social identity in terms of collective organisation, provision of social support, and alignment of shared goals, shedding light on the micro-processes of group mobilisation and its transformation into collective action (cf. Uekusa, 2017). Finally, it can describe some of the processes through which emergent groups transform into enduring social capital (Ntontis, 2018).

Our analysis also raises the meaning of 'community' in community resilience frameworks. Despite the principles of collective resilience and the ability of people to collectively organise and overcome adverse situations, emergent communities are not considered as sources of community resilience in policy documents (cf. Drury, 2012). On the contrary, the processes that we explain here include mobilising both pre-existing and emergent communities. For example, Ntontis et al. (2018b) showed how an emergent community of residents without necessarily any pre-existing bonds prior to the disaster operated within the limits of a geographical community to become a source of resilience that provided support and facilitated recovery. Such behaviours can be important sources of community resilience and should therefore be accounted for in theoretical frameworks that inform policy and practice.

An advantage of conceptualizing community resilience as a *process* is that it gives us the theoretical flexibility to apply current understandings of groups' behaviour in order to account for particular indicators (e.g., collective efficacy or the availability of social support). Thus, we avoid the reification of the concept or its representation in generalised, untargeted, and abstract terms (cf. Ntontis et al., 2018a; Patel et al., 2017), and suggest direct courses of action. We argue that unless we adopt a social identity approach to collective resilience (Drury et al., 2019) the construct of community resilience lacks crucial understandings about the dynamics of collective behaviour. Consequently, we suggest a series of recommendations for practitioners and policymakers (see Drury et al., 2019 for an extended discussion), such as recognising the importance of knowing more about: a) *actual* group psychology such as the commonality of the presence of social support and the centrality of social identity in its provision; b) the need to work in line with rather than against group norms; c) providing timely information from trusted messengers, ensuring its constant flow, as well as communicating the unknowns; d) knowing the local communities and their norms, as well as establishing positive relations with them; e) maintaining active communication; f) maintaining the disaster communities alive and mobilizing broader solidarity. What is more, we acknowledge that communities can also have an active role in fostering wider resilience. Therefore, we suggest that it is important that community members: g) form community groups that can enhance a sense of identity and can become the basis for provision of social support, collective efficacy and a sense of empowerment and collective coordination that can have a positive impact in tackling the effects of secondary stressors. Finally, given the importance of social connectedness for collective as well as individual wellbeing, community development can be crucial in fostering community resilience (Cavaye & Ross, 2019). Community development can enhance collective engagement and participation, a sense of ownership, alignment towards common goals, capacity building, collective empowerment,

and a sense of collective agency (Cavaye & Ross, 2019; Pfefferbaum, Pfefferbaum, & Van Horn, 2015; Revell & Dinnie, 2018). Based on the empirically tested theoretical tools outlined in this article, we argue that, at the social psychological level, it is shared social identity that can act as the mediating mechanism through which community development can positively foster community resilience.

In broader terms, our model is also aligned to recent calls for a systems thinking approach to climate change and mental health (Berry et al., 2018), because it allows us to explore the complex interactions between a wide range of psychosocial and socioeconomic indicators. Given the weakness of current epidemiological models due to their focus on people as individuals (Berry et al., 2018), our model is at an advantage because of its ability to consider how broader political, economic, or environmental factors can interact with more specific psychosocial ones, can account for the emergence and persistence or decline of collective behaviour, as well as explore how individual behaviour can be affected by group membership, group norms or intergroup relations, and apply such findings to policy and practice.

Our model is also empirically aligned with broader critiques of the resilience agenda. For example, MacKinnon and Derickson (2012) argue that the ecological framework of resilience is conservative in that it can naturalise the existing social relations and reproduce existing systems of inequality. Also, policy for community resilience in the UK prioritises community-based risk management, self-reliance and empowerment (MacKinnon & Derickson, 2012). However, it has been argued that his can lead to reduced state responsibility and governmental accountability (Chandler, 2013, 2014; MacKinnon & Derickson, 2012). Our social identity-based approach to community resilience agrees with the suggestion of MacKinnon and Derickson (2012) about the notion of resourcefulness. Our model considers the social transformation that often characterises disasters towards people

being members of a temporary 'communist' state (Solnit, 2009) in which solidarity and social support flow freely outside the context of marketized social relations (but see Kaniasty & Norris, 1999). Second, we advocate a bottom-up approach to community resilience, since the principles of collective resilience endorse a view of communities as agentic, as expressing and expecting solidarity, and as possessing the ability to coordinate collectively. Resilience is not a given, but rather a process that is fostered by internal and external actors. Therefore, it becomes the responsibility of national and local governments to support the public's capacity for resilience. This paves the way for endorsing and working *in line with* communities' values and local knowledge, working *with* rather than *over* communities, developing the sense of community, challenging the notion of top-down expertise and attempts to control rather than cooperate. This defines the construct of coproduction.

Finally, recognising the 'natural' resilience of people at the individual and collective levels should not be used to justify further financial cuts. This point is also echoed by Drury (2012) and Chandler (2013), who argue that resilience discourses can be used to minimise public spending and bypass governmental responsibilities. We do not intend for our approach to be used as a substitute for economic and infrastructure development. Norris et al. (2008) make clear that economic prosperity is a key element of community resilience, and so is the development of infrastructure (Wickes et al. 2015). It is only through a *combination* of appropriate investment in infrastructure and resources, coupled with response plans that incorporate a more sophisticated and evidence-based understanding of social behaviour, that we can be optimistic that the worst effects of extreme events can be mitigated, and a faster and more complete recovery becomes possible.

An emerging research agenda

Our conceptualisation of community resilience through a social identity perspective paves the way for a novel research agenda. Recent inquiries after disasters call for the

maintenance of groups that emerged during the incident (e.g. Davies, 2017). However, therapeutic communities are often temporary and do not extend for a long time following the acute phase of disasters (Fritz & Williams, 1957; Quarantelli, 1999). However, maintaining or developing community can facilitate providing ongoing support and enhance people's recovery. Thus, research utilising the social identity approach can further delineate the processes of group emergence, mobilization, maintenance, decline, as well as broader systemic factors (e.g. inequality, austerity) can impact upon the collective capacity for resilience.

A second area for research concerns the nature of social capital. Social capital can be created through external interventions and community engagement programmes, but unexpected groups can emerge during the disaster. Research could explore the processes through which emergent groups transform into permanent groups in the post-disaster period as well as the factors that might be able to facilitate or inhibit their progression. Since strong social capital has been shown to be an important factor of community resilience, it might be useful to explore the dynamic processes that aid its creation.

Third, policy for community resilience (e.g. Cabinet Office, 2011) states that resilient communities can work alongside the emergency services, which points us to the field of intergroup relations. Disasters are primarily intergroup encounters (Carter, Drury, & Amlôt, 2018) in that they involve at least two groups, communities and authorities. Thus, social identity-based processes can operate and affect the resilience of communities, that are likely to be related to matters such as inter-group trust, the perceived legitimacy of the authorities (cf. Carter, Drury, Amlot, Rubin, & Williams, 2015), communities' compliance, the effectiveness of communication processes, as well as the interplay between all of those factors in conjunction with other socioeconomic characteristics of the communities affected. Our proposed theoretical approach to community resilience does not treat intergroup relations

as fixed and static, but as dynamic functions of the social context and of each group's behaviours (and their perception) (also see Drury & Reicher, 2000; Stott & Drury, 2000; Stott & Reicher, 1998) that should be incorporated in existing theory and practice.

Conclusion

Climate change is increasing the impact and likelihood of disasters, and, in turn, they may cause severe structural and psychosocial trauma. Despite their benefits, conservative theories for community resilience cannot account for various forms of people's commonly-observed behaviour during and after disasters. We add to these notions our social psychological approach to community resilience. It is informed by research into social identity and the principles of collective resilience, which can offer insights into the dynamic nature of intra- and inter-group behaviour. We challenge policies that limit or do not recognise the capacity of people to express solidarity and to organise. Yet, we do not play down the importance of state actors on enabling these processes to occur. Our model offers a solid explanation of human behaviour in disasters as well as viable suggestions for policy and practice.

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