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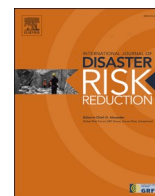
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Advancing a social identity perspective on interoperability in the emergency services: Evidence from the Pandemic Multi-Agency Response Teams during the UK COVID-19 response

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ABSTRACT

Previous research shows there are persistent challenges with multi-agency response centring on problems of communication and coordination. The Social Identity Approach provides an important psychological framework for analysing relations within and between groups which can be used to understand why challenges in multi-agency response occur, and what can be done to prevent them re-occurring in the future. To explore this issue, we conducted semi-structured interviews with 14 responders from the Police, and Fire and Rescue Services who were involved in Pandemic Multi-Agency Response Teams (PMART) during the initial months of the COVID-19. These teams responded to suspected COVID-19 deaths in the community. Interviews were analysed using thematic analysis. Results show that responders appeared to share the pre-existing superordinate identity of all being members of the *blue-light service*. This identity was made salient as a result of responders experiencing positive contact with each other. Responders also shared the situational superordinate identity of *PMART* which was both created, and then made salient, through positive contact with each other, as well as responders sharing difficult experiences. At the same time though, structural factors such as inequalities in building access and different shift patterns increased the salience of sub-group identities in ways that created conflict between these identities, as well as operational challenges for joint working. This research advances our understanding of multi-agency working from a social identity perspective by providing evidence of a shared social identity at an operational level of emergency response. Practical implications of this research are discussed.

1. Introduction

Recent incidents in the UK, such as the Manchester Arena Attack,¹ the Grenfell Tower fire² (both 2017), the Salisbury nerve-agent

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¹ On 22nd May 2017, 22 people died when a bomb was detonated at the end of a music concert in Manchester [40].

² On 14th June 2017, 72 people died when a fire broke out in Grenfell Tower, a high-rise residential building in North Kensington, London [41].

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attack³ (2018), and the COVID-19 pandemic (2020-present), have demonstrated the vitally important role of emergency services in tackling such incidents. However, post-incident inquiries and reports have highlighted persistent challenges that the Police, Fire and Rescue (FRS), and Ambulance Services face during multi-agency responses [1–4]. Moreover, despite the introduction of the Joint Emergency Services Interoperability Programme (JESIP) in 2012, challenges to multi-agency response continue to occur (e.g. Refs. [5, 6]), highlighting the need for better understanding into how multi-agency response groups operate and how their operation might be improved. Addressing this, recent research on the multi-agency response during the initial months of the COVID-19 pandemic points to the relevance of social identity processes to explain group behaviour at the strategic and tactical levels of multi-agency response [7]; see also [8]. However, to our knowledge, research has not yet addressed social identity processes at the operational level of response.

To address this lacuna, in this paper we aim to advance a social identity perspective on interoperability in the emergency services (as discussed by Ref. [7]), by seeking to understand if and how social identity processes might operate at an operational level. To do this, we explore the experiences of responders from the Police and FRS who were involved in the Pandemic Multi-Agency Response Teams (PMART) that were introduced to some areas of the UK during the initial months of the COVID-19 pandemic in 2020. Specifically, we seek to address a gap in the current research by exploring the role of shared identity in this context: was it relevant, how did it arise, how did it function?

Before discussing the study, we first provide an overview of challenges with interoperability in multi-agency response, before going on to outline the Social Identity Approach and its relevance to the topic in question.

1.1. Challenges with interoperability in multi-agency response

Interoperability in the emergency services refers to the way in which responders from different organizations can work together coherently as a matter of routine [9]. This has been found to present persistent challenges for the emergency services during multi-agency responses. Speaking to this point, Pollock [1] found that factors such as poor communication and poor coordination were present across 32 major incidents between 1986 and 2010, including the Hillsborough Stadium disaster in 1989, and the London bombings of 2005. In an attempt to combat these challenges, the Joint Emergency Services Interoperability Programme (JESIP) was introduced to provide standardised principles for joint working [9,10]. Principles designed to facilitate interoperability include *communicating* using language which is clear and free from technical jargon and abbreviations, and *co-locating* with other responders as soon as practicably possible at a single, safe, and easily identified location.

Despite the introduction of JESIP, independent inquiries into the Manchester Arena attack [5] and the Grenfell Tower fire [6] point to challenges amongst the emergency services in applying JESIP principles. For example, during the Manchester Arena attack vital information about the suspected nature of the incident was not shared between the services, resulting in pre-planned protocols not being activated or being used to inform decision-making [5]. Moreover, a “lack of coordinated response and sharing of communication” was identified as a major area for learning (p.8). Similar challenges were also present during the Grenfell Tower fire, where failures to implement effective and efficient arrangements between the control room and incident ground, to communicate information about the internal spread of the fire, and to obtain accurate and up-to-date information about search and rescue operations were reported [6]. The report of the public inquiry into the disaster states that these failures “were compounded by failures of communication between the incident commanders themselves” (p.597).

These incident reports suggest that although lessons have been identified in inquiries following incidents, there is often a failure to translate these into learning (see Refs. [3,4]; for discussion). Supporting this claim, research looking at multi-agency collaboration in the emergency services suggests that whilst collaboration has been achieved in a number of ways, it still remains “patchy” [11]; p.27). Adding to this, in a recent review on collaboration and governance in the emergency services, Wankhade and Patnaik [12] call for a better understanding of the social interactions that take place during multi-agency working in order to provide insights on how to better manage collaborations (see also [13]).

In response to this call for a better understanding of multi-agency working, recent research suggests that it is important to consider psychological factors when seeking to understand how responders from different organizations work together during multi-agency responses. More specifically, Davidson et al. [7] argue that the Social Identity Approach is an important theoretical framework for understanding how and why some of the challenges with interoperability might arise, and importantly, what might be done to prevent them re-occurring in the future. This is discussed in more detail below.

1.2. The Social Identity Approach

The Social Identity Approach is a key framework in social psychology which helps us understand behaviour within and between groups. The approach comprises two inter-related theories: *social identity theory* [14] and *self-categorization theory* [15,16]. Both theories build upon a foundational insight that people define themselves not only in terms of their personal identity as individuals [17], but also in terms of their *social identity* as members of groups [14]. Put simply, personal identity defines a sense of ‘me’ that describes a person in contrast to others, and *social identity* defines a sense of ‘us’. According to this approach, it is this sense of ‘us-ness’ that psychologically connects people to other members of their group [18].

Social identity theorising points to the fact that when people define themselves in terms of a particular social identity (e.g., as a member of the Police Service) this has important implications for their cognition and behaviour. In particular, a sense of shared social identity (i.e., a common sense of ‘us-ness’) between members of a group provides a psychological sense of inter-connection and

³ On 4th March 2018, a military-grade nerve agent was deployed in Salisbury, Wiltshire, poisoning three people. On 30th June 2018, two further people were poisoned with the same nerve agent, with one of these people subsequently dying as a result [42].

common purpose [18,19] that is a basis for coordination and cooperation between groups. In addition, shared social identity can provide group members with shared definitions of situations and common norms for behaving in those situations [20], in ways that increase the ability of the group to work together effectively [19,21], and that foster trust and respect among group members [22].

At the same time, though, people have multiple social identities which can become salient in different contexts. These different identities can become prominent and influence their behaviour to a greater (or lesser) extent in a given situation [23,24]. For example, when (and to the extent that) a person defines themselves as a member of a particular team, they will be motivated to advance the interests of that team in relation to other relevant teams. This notion has particular relevance to multi-agency emergency response. Here, depending on the context, Sally, a police officer, might define herself as part of a particular team (e.g., as a member of PMART), as a member of a particular profession (e.g., as a police officer), or as an emergency services worker. In this sense, when (and to the extent that) Sally identifies as part of PMART she will be motivated to advance the interests of that team, but when (and to the extent that) she identifies as a police officer, she will be more motivated to advance the interests of the Police Service.

An important question that arises from this understanding that people can have multiple social identities in different contexts concerns *when* these identities become salient in a given context. When might Sally identify as a member of PMART rather than as a police officer or as a member of the emergency services? The answer to this question has important implications for not only Sally's own behaviour, but also for the functioning of her team as a whole. In this regard, self-categorization principles of *fit* and *accessibility* allow us to understand which of many identities will become salient, and therefore guide perception and behaviour, in a given context [25]; see Ref. [26]; for an overview).

The principle of *fit* refers to a subjective perception of a social group (e.g., a team or organization). According to this principle, we would expect an in-group category to become salient when a person perceives the differences between themselves and fellow in-group members to be smaller than those between in-group and out-group members (also known as *comparative fit*; [27]). For example, if Sally (a police officer) was surrounded by firefighters and police officers, we would expect her identity as a police officer to be salient. At the same time though, the nature of these differences must be consistent with Sally's expectations about the groups (also known as *normative fit*; [27]). For example, Sally's identity as a police officer is less likely to be salient if the police officers and firefighters are seen to be different from each other in ways that don't fit Sally's stereotypes — for example, if the police officers are only concerned with decontamination procedures, something which is generally an FRS priority.

Importantly too, the principles of *fit* work in interaction with *perceiver readiness* (or *accessibility*, [16,28]). This refers to the ways in which our willingness to take on a given social identity is determined by such things as our personal history and our strength of prior identification [27]. For example, if Sally has worked as a police officer for a long time, and has strong commitment to her job, but has limited experience working as part of a team with firefighters, she may be more likely to identify as a police officer than an emergency services worker.

This analysis has clear relevance to multi-agency emergency response, where, as noted above, Police, FRS, and Ambulance responders are required to work collaboratively during a response. The role of shared identity in this context is discussed in more detail below.

1.3. The role of shared identity in multi-agency response

Based on the notion that a shared sense of 'us-ness' can facilitate group working, Davidson et al. [7] introduced a social identity perspective on interoperability in the emergency services by applying the Social Identity Approach to multi-agency response. To this end, they conducted interviews with responders from the Police, FRS, and Ambulance Services at the strategic and tactical levels of response during the initial months of the COVID-19 pandemic and found evidence of psychological groupness in the multi-agency teams that were tasked with dealing with the response. More specifically, there was evidence that the psychological groupness within the teams was initially embedded through pre-existing relationships with each other and a sense of common fate (i.e., the feeling that 'we are all in this together') in relation to COVID-19. However, when pre-existing relationships were not present, and when the initial threat of COVID-19 reduced in some areas, leaders of the group played an important role in reinforcing this sense of psychological groupness within the team.

Davidson et al.'s [7] study provides useful insight into factors that might impact the development of a shared social identity during a multi-agency response. However, this study focused on the strategic and tactical levels of response, and clearly this might present different challenges to those associated with an 'on-scene' operational response (see Table 1 for an overview of the emergency response tiers of command in the UK). For example, during an incident, strategic and tactical responders typically tend to convene at

Table 1
Tiers of command and associated responsibilities emergency responders adopt when responding to incidents [10].

Tiers of command	Associated responsibilities
Strategic	Sets strategic direction Coordinates responders Prioritises resources
Tactical	Interprets strategic direction Develops tactical plan
Operational	Coordinates activities and assets Executes tactical plan Commands single-service response Coordinates actions

multi-agency coordination groups at sites away from the incident ground, whereas operational responders undertake the immediate ‘hands on’ work at the site of the incident or emergency [29]. Subsequently, the nature of the multi-agency response is different at the operational level compared to the strategic and tactical levels, making it difficult to discern whether social identity processes might operate in the same way at this level.

Accordingly, the goal of the present study is to advance our understanding of the extent to which social identity processes function in multi-agency emergency response by examining the experiences of responders at an operational level. Specifically, this study focuses on the Pandemic Multi-Agency Response Teams created for the COVID-19 response.

1.4. Context: the Pandemic Multi-Agency Response Teams

Pandemic Multi-Agency Response Teams (PMART) were set up in some areas of the UK during the initial months of the COVID-19 pandemic in 2020 in anticipation of the increasing demand that COVID-19 would place on the National Health Service. These teams were made up of police officers, firefighters, and health service staff, and their role included (a) confirming that an individual had died, (b) establishing if there were any suspicious circumstances surrounding the death, and (c) safely preparing the deceased to be collected by an undertaker [30]. The Police and FRS responders who were involved in the teams were recruited by their organizations as volunteers.

These teams were of particular interest to us because they represented a unique multi-agency response to a major incident. For example, whilst the Police, FRS, and Ambulance Services typically work towards the same superordinate goal of saving lives and reducing harm, they tend to have partly overlapping, yet distinct, sub-goals which can, and do, sometimes conflict with each other [31]. In contrast, responders involved in PMART had shared goals, as described above. Demonstrating the importance of shared goals, recent research looking at collaboration between Police and FRS found that developing a shared vision is what differentiated ‘successful’ and ‘unsuccessful’ collaborations [32]. In addition, Police, FRS, and Ambulance responders typically would arrive at the site of an incident separately and also be located separately before and after an incident response. However, during PMART, Police and FRS responders were based together at the same ‘hub’. In this sense, PMART represented a new organization for its members.

Because of the unique nature of PMART, we were interested in understanding the way that Police and FRS responders involved in these multi-agency teams were able to work together and what factors facilitated or challenged this. More specifically, we were interested in whether there was any evidence of social identity processes bound up with the process of teams working effectively together (or not). In this way, researching this ‘new organization’ represented through PMART allowed us to make a valuable and novel contribution not only to the growing body of literature on interoperability in emergency response, but also to the social identity literature in general.

1.5. The present study

Incident inquiries, reports, and reviews highlight the need for better understanding of multi-agency emergency response [3,5,6], specifically the social interactions that take place in the process of dealing with major incidents [12]. In response to this, recent research has sought to understand the psychological processes that underpin interoperability during multi-agency response [7,8]. With this in mind, we conducted semi-structured interviews with responders from the Police Service and FRS who were involved in PMART. In this context we sought to understand, from a psychological point of view, how those teams operated and the possible role that shared identity played in facilitating effective multi-agency working.

More specifically, the aims of this study were to identify:

RQ1. Was there any evidence of a shared social identity between responders?

RQ2. What factors facilitated or challenged effective multi-agency working?

RQ3. If there was a sense of shared identity, was this bound up with any of the factors that facilitated or challenged effective multi-agency working?

2. Method

2.1. Procedure

Responders were from two separate areas in the UK, which in the interests of anonymity will be referred to as Area A ($N = 10$) and Area B ($N = 4$). In these two areas, the health service staff were not co-located with the Police and FRS; we therefore focused this research on Police and FRS responders only.

Fourteen semi-structured interviews were conducted with responders from the Police ($N = 6$) and FRS ($N = 8$) who were involved in PMART (see Table 2), between May 1, 2020 and August 18, 2020. Potential participants were identified by word of mouth, initiated through pre-existing contacts with the research team, and recruited for the study via email. To ensure anonymity, responders were given a unique participant number (1–14; see Table 2).

Interviews took place either over the telephone or via the online platform Microsoft Teams. Interviews were recorded with a dictaphone. Before their first interview, responders were provided with an information sheet electronically and a verbal consent protocol was read out to them. They were then asked to verbally consent to take part. Interviews lasted on average 51 min (max = 1 h, 23 min, min = 37 min; see Table 2). The interviewer followed an interview schedule during the interview which had been developed following discussions between members of the research team. Questions focused around roles and responsibilities (e.g., “Can you describe your current role in the COVID-19 response?”), and multi-agency working (e.g., “How well has the team managed to work together?”). The full interview schedule can be found in the Supplementary Materials.

Table 2
Participant information.

Participant number	Organization	Area	Gender	Interview length
1	Police	B	Male	00:48:38
2	FRS	A	Female	00:52:03
3	FRS	A	Male	00:44:03
4	FRS	A	Male	00:42:49
5	FRS	A	Male	00:41:50
6	FRS	A	Male	00:56:59
7	Police	B	Female	00:49:52
8	FRS	B	Male	01:23:31
9	FRS	A	Male	00:37:35
10	Police	A	Male	00:42:49
11	Police	A	Male	01:03:37
12	Police	A	Female	00:43:07
13	Police	A	Female	00:58:03
14	FRS	B	Male	00:58:02

Note: Participant's age was not recorded.

Ethical approval was independently granted by the UK Health Security Agency's Research Ethics and Governance Group on April 6, 2020 (reference number NR0196).

2.2. Data analysis

Interviews were analysed using thematic analysis – a method for identifying, analysing, and reporting themes (patterns) in data [33]. Data familiarisation involved the first author listening to and transcribing the interview recordings. The first author then read and re-read the interview transcripts to identify sections which were relevant to the research questions, and initial codes were generated for these sections (e.g., 'responders spending time with each other'). These codes were then reviewed, and potential themes were identified by the first author and discussed with the research team. Once themes had been identified (e.g., duration of contact) these themes were reviewed, defined, and named by the first author before being shared and discussed with the research team. Following discussions, themes were separated into two key topic areas based on the research questions (*evidence of shared identity* and *factors impacting multi-agency working*). The research team met on a fortnightly basis throughout the study.

A key difference between the deployment of PMART in Area A and Area B was that in Area A, FRS responders were seconded to the Police Service. This meant that FRS and Police responders had the same line management and risk assessments. Whereas in Area B, FRS responders were not seconded to the Police Service, and they operated under different line management and risk assessments. Any differences in the results between these two areas is outlined and discussed below.

2.3. Data access statement

Data is available upon reasonable request.

3. Results

The results are presented in relation to the two key topic areas: (i) *evidence of shared identity* (i.e., the extent to which there was evidence of a shared identity in the multi-agency groups, and the nature of that identity [RQ1]), and (b) *factors impacting multi-agency working* (i.e., evidence of the mechanisms or pathways that appeared to facilitate or challenge multi-agency working [RQ2]), and evidence that responders' shared identity was bound up with this process [RQ3]) (see Table 3; Fig. 1).

Themes are presented alongside representative extracts from the interviews. Responders' unique participant number is presented alongside extracts, as well as the area they were from (A or B).

3.1. Evidence of shared identity

This topic area refers to the extent to which there was evidence of a shared identity in the multi-agency groups, and the nature of that identity. There is one theme under this topic area: *superordinate identity*.

3.1.1. Superordinate identity

This theme refers to responders identifying as part of a collective wider group, rather than their individual organization. This theme is separated into two sub-themes: (a) *PMART as an identity*, and (b) *blue-light services*.

3.1.1.1. PMART as an identity. Nearly all responders commented that there was a unity or equality between responders from the Police and FRS within their teams. One responder (P6, A) said PMART "temporarily and partially merged" the two organizations to create one entity. One Police responder who was in charge of one of the teams discussed the two organizations being "embedded" because of there only being one role in the team – a PMART role:

It's the first time ever that you've been embedded [...], I assume responsibility for everyone in the role [...], I couldn't tell you who was a fire officer and who wasn't [...] and to be fair, I didn't care. It got to the stage because it wasn't a Police role, it wasn't a Fire Service role, it was a PMART role [...], there was no that's your job, that's my job [...], everybody got involved [...] so if something needed doing [...] it was all bang, we're in this together (P10, A).

Table 3
Overview of topic areas and themes.

Topic Area	Theme	Definition
<i>Evidence of shared identity:</i> This topic area refers to the extent to which there was evidence of a shared identity in the multi-agency groups, and the nature of that identity (RQ1)	Superordinate identity: <i>PMART as an identity</i>	Responders identifying as part of PMART, rather than their individual organization
	Superordinate identity: <i>'blue-light services'</i>	Responders identifying as part of the blue-light services, rather than their individual organization
<i>Factors impacting multi-agency working:</i> the mechanisms or pathways that appeared to facilitate or challenge multi-agency working (RQ2), and whether responders shared identity was bound up with of these factors (RQ3)	Facilitators: <i>Shared experience</i>	The impact that the difficult nature of the response had on multi-agency working
	Facilitators: <i>Duration of contact</i>	The impact that the length responders were on the same team and had contact with each other, and the impact that contact with each other had on multi-agency working.
	Challenges: <i>Shared location</i>	Organizational differences between the Police and FRS responders that created challenges through being physically based together
	Challenges: <i>Different sub-group norms</i>	Differences in culture between the Police and FRS responders that were highlighted through being physically based together
	Challenges: <i>Differing appetites for risk</i>	When responders did not share a risk assessment and instead relied on their own judgements of risk to assess a situation.
	Challenges: <i>Overcoming negative preconceptions</i>	Pre-set opinions of responders from the other organization before entering PMART.

A similar sentiment was echoed by a Police responder in Area B who said their team was created through everybody working together:

It didn't matter that we were Police, and they were Fire, we're all based at the same place, we all just chipped in and [...] you built your little team up (P7, B).

One responder (P1, B) said that everyone in their team had a "common purpose" and that this "forged the team early on", suggesting that this superordinate group of PMART that they were all involved in was salient in bringing the groups together initially.

Recognising that the Police and FRS are usually separate organizations, one responder noted that the equality and unity between the two organizations was something unique to PMART:

The biggest strength is the ability to work together under pressure, you know, not having any [...] issues working with the Police [...] just a unity of what we are actually doing. It's quite difficult because we are all at different pay levels, yet within the team we are all considered quite equal and [...] it's been amazing [...], it's quite humbling that the Police has allowed us into their world as much as we have allowed them into our world. It's very unique (P3, A).

Yet, despite this unity, two responders from the FRS in Area A, where FRS were seconded to the Police, commented that whilst there

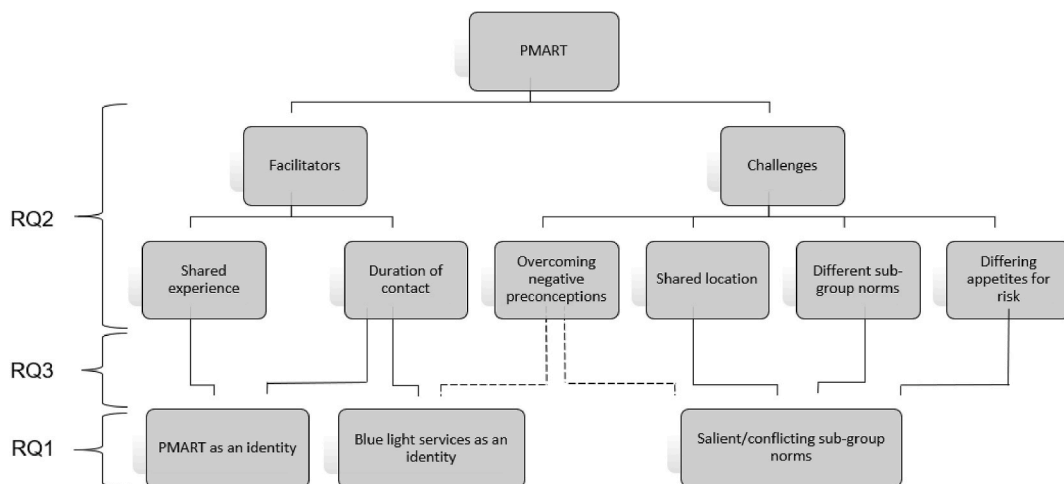


Fig. 1. Schematic representation of results related to research questions: RQ1: Was there any evidence of a shared social identity between responders? RQ2: What factors facilitated or challenged effective multi-agency working? RQ3: If there was a sense of shared identity, was this bound up with any of the factors that facilitated or compromised effective multi-agency working?

was good cooperation between the organizations, they were still grateful for the support provided from their own organization:

It was nice to know that our parent service, the Fire Brigade, hadn't forgotten about us [...] on the occasions when you are a single firefighter with a crew and the rest were police officers [...] it was nice to have that connection (P5, A).

3.1.1.2. *'Blue-light services'*. Half of the responders interviewed, and all the responders who also discussed 'PMART as an identity', commented that another way they saw themselves as one group related to the fact that they were all members of the blue-light services. One responder (P4, A) said that whilst they are two separate organizations, they both have a "common thread" in that they are emergency workers. Several reasons were given as to why defining themselves in this way facilitated multi-agency working. Two responders (P4, A & P5, A) commented that as blue-light workers they were used to dealing with trauma in their day job, and a further two responders said that they were used to working in a team and that this facilitated the way they were able to work together:

There was a lot bigger bond between the teams [...], you don't know anyone, but then straight away as soon as you're working together you, because we're used to just getting on with it straight away, and just everyone's mindset is sort of the same, for professionalism and getting it done, working all in a team, we're all used to working in a team [...] it really did work very, very well [...], so I think, you know put all that together and you got the making of a very, very good emergency service (P9, A).

Several responders said because they were all part of the blue-light services, they shared a similar mindset. For example, one responder (P11, A) commented that as blue-light workers they shared the same "positive", "can-do", solution-focused attitude. Another responder described this shared mentality as a key strength of the teams and how they were able to work together:

We're all professionals and members of the blue-light services, and er we had an understanding, I think it is a personality type where you know we could, and we were able to prioritise and cooperate, I mean, that is the strength of the team, is that you can gel together quickly, and we were on the same wavelength (P5, A).

3.2. Factors impacting multi-agency working

This topic area refers to the mechanisms or pathways that appeared to facilitate or challenge multi-agency working, and whether responders' shared identity was bound up with any of these factors. This topic area is separated into two themes: (a) *facilitators* and (b) *challenges*.

3.2.1. Facilitators

This theme refers to factors that helped responders work together. This theme is separated into two sub-themes: (a) *shared experience* and (b) *duration of contact*.

3.2.1.1. *Shared experience*. Over half of the responders from both organizations and areas said that the nature of the work they were doing during their time with PMART facilitated the multi-agency groups coming together. Responders said they were sharing "difficult" (P3, A; P7; B & P12, A), "challenging" (P10, A), "grim" (P12, A), but also "valuable" (P4, A & P12, A), and "important" (P2, A) experiences with each other. In turn, one responder said that this helped create a sense of "camaraderie" between group members (P12, A):

Interviewer: What do you think helped solidify those relationships between all of you?

P12: I think probably the nature of the work, you're all doing a really difficult job, and you're doing it together.

Because of the shared difficult nature of the response, some responders commented that there was a need to look after each other both physically when they were at an incident call-out (e.g., ensuring correct use of personal protective equipment), as well as emotionally when they were at their base (e.g., being able to talk about what they had been through). One responder said that the need to physically look after each other helped the group come together psychologically immediately:

You build a bond straight away, there and then, 'cause you have to work with them, and you may have to go in somewhere and you got to look after each other [...], basically, here we were looking after the Police, they were looking after us [...] we all had each other's sort of backs as it were (P9, A).

One responder compared their experience within PMART to "wartime", saying they bonded with each other "in order to get the job done and look after each other":

You go out and you buddy up and you look to see what you're doing for each other, and you literally care about each other, erm so you're looking after each other's backs and you rely on people and that's kind of what happened [...] friendships are probably made for life there I think, in really difficult circumstances (P10, A).

3.2.1.2. *Duration of contact*. Another factor that appeared to facilitate multi-agency working was the length of time that the teams spent together – something that half of the responders discussed. This varied depending on the specific team and their area, but it ranged from a couple of days (e.g., Area B) to several months (e.g., Area A). Several of these responders commented that time spent together was important because the longer a team was together, the stronger the relationships between the individuals in the team became. Elaborating on this, one responder (P4, A) said that the relationships between different members of the team became stronger over time because they realised, through conversation, that they were very similar to each other.

Yet it was not just the length of time spent together that was important, some responders also note that the *quality* of this time was

important in facilitating multi-agency working. In particular, responders said they were able to develop personal relationships, as well as professional relationships and described each other as friends:

We made good friends 'cause [...] when you're not doing a job as much, and you're waiting for their call and that, then you're just there, just the three of you, or if there's four of you there, and then just talking about the usual stuff you would with a friend and [...] as the days go on, you're working more with them and see them every day and stuff and that sort of builds a friendship (P9, A).

One responder (P10, A) described the relationship created between team members as a "family" and said that each team had "their own little identity". When asked what impact spending 'downtime' together had on their ability to respond together, this responder said it was "essential":

I think [...] that became the key, you know, how they bonded [as a unit, as a team, as a foursome, meant, you know, it's how they performed when they're out there.

Discussing how spending time together, and the relationship that was able to be formed impacted their operational response, one responder (P3, A) commented that the teams were better able to manage the changing information and advice given to them as time went on and the teams got to know each other better. This responder said that this was because they discovered each other's strengths and weaknesses and learned how to respond to certain situations as a team.

Another responder (P5, A) observed that the way people responded to situations as a team changed throughout the deployment on PMART and that their efficiency in dealing with a situation was much greater towards the end of the deployment than it had been at the beginning. This responder said this was because they addressed factors such as health, mental fatigue, and physical fatigue together:

The longer a team is together, the more able they are to [...] interpret each other's behaviour [...], if you haven't got a regular team that stuff needs to be taught (P5, A).

However, in Area B the teams were regularly changing — primarily because they had regular rotation of teams and the Police and FRS responders worked different shift patterns. This made it difficult for responders to build up a relationship with their colleagues from the other service:

We've all got different shift patterns, you never had the same thing, even with Police and Fire that was one team, you know physically together, we still didn't always work with the same group, because they work 12 hour shifts and we work eight hour shifts, so it was constantly changing [...], we got a really good working relationship with them the first two shifts, and then by the time we went on to our late shift on shift three, we're working with a different crew [...] so then it's kind of, you're back to square one of starting again (P7, B).

Despite this challenge of regular changes in the team, this responder explained that by the third week of deployment they were starting to work with the same teams again and were able to benefit from the relationships they had previously built with them.

3.2.2. Challenges

This theme refers to factors that created difficulties for responders working together. This theme is separated into four sub-themes: (a) *shared location*, (b) *different sub-group norms*, (c) *differing appetites for risk*, and (d) *overcoming negative preconceptions*.

3.2.2.1. Shared location. A challenge that responders from both areas initially identified in their multi-agency working related to the physical place in which they were co-located during their deployment on PMART. More specifically, responders said their teams were based at a disused police station and that responders from the FRS were not allowed to walk around this unescorted. However, one responder from Area A (P12) said they identified and fixed that challenge quickly in order to deal with the logistical and practical difficulties that it created.

However, in Area B this challenge seemed to persist throughout the deployment of PMART. One responder from the Police (P7) commented on the logistical and practical difficulties that were created by the FRS responders having restricted access to the building, and by the fact that this was not able to be resolved. This challenge also appeared to be exacerbated by the Police and FRS responders being on different shift patterns. The same responder commented how this created "unnecessary" operational challenges:

They had a different change over time, our late shift was 3 till 11 [...], they have to change over at 7pm [...], sometimes they had to come back if we were out at jobs, they would have to come back at 7pm to swap teams [...], you would always then have to make sure a police officer comes back with them [...], operationally, it was just a pain (P7, B).

In addition to the operational challenges, this responder commented on how access to the building also created inequalities in the team and highlighted the differences between them, in ways that created challenges for their desire to function as a single team:

[The building] had [...] everything we needed, but access to the building was a problem erm because Fire haven't got the warrant cards [...] operationally I think we got past it, because actually the Fire crew knew that it wasn't us as individuals, it was the organization, but for me, we're working as a team, [...] interoperably, how is that team ethics if you can't even give them access to the building where their kit is, where their food is [...], it's that fundamental little bit of being a team, we've actually made you feel not part of the team, because we're not going to let you have access to the building [...], it was just poor erm from the outset of we're working as one, cause we're not, you're different (P7, B).

However, in Area B, this challenge was only discussed by a responder from the Police, and not by responders from the FRS,

suggesting that whilst this may have impacted the Police responders' perception of the team, it had less impact on FRS responders.

3.2.2.2. Different sub-group norms. Responders from both areas commented on the tendency for FRS responders to sleep on quiet night shifts and for this to be a normal thing to do in the FRS but not for Police (who do not sleep on night shifts). This difference seemed to present challenges in Area B where FRS responders were not seconded to the Police and where they had regular team rotations as well as different shift patterns. One Police responder from Area B commented that sometimes they went a whole shift and did not meet their FRS colleagues due to them sleeping in a separate room. As a consequence, they said this prevented a relationship forming between the two:

One thing I personally as a police officer struggled with, is when [...] we're on night shifts [...] we don't sleep [...] and I remember one night I walked in, erm they'd had a quiet late shift [...], they'd been on duty since 7pm and they'd gone, cause they're on a lie down [...], I didn't see that crew at all, because we had no calls that night (P7, B).

However, this responder went on to say that when they were able to meet the FRS responders on the shift, they were able to "build a brilliant bond".

In Area A, this difference between the two organizational 'norms' was commented on by some responders, but it did not seem to present the same challenges as it did in Area B. One responder from the Police (P12) said that they would make jokes about the FRS responders sleeping on night shifts, but they described this as "emergency service banter". A responder from the FRS (P5) said that whilst their Police colleagues originally "made fun" of them sleeping on night shifts, by the end of the deployment the police officers were bringing in their own blankets to rest between incidents.

In contrast to the experience of the Police responder in Area B, one Police responder in Area A commented that learning about how the FRS spend the quiet moments in between jobs helped them "gel" as a team because they could learn about each other's culture.

3.2.2.3. Differing appetites for risk. One factor potentially challenging the development, or salience, of a PMART identity in Area B related to the fact that the Police and FRS did not share risk assessments. In Area A, FRS responders were seconded to the Police during their PMART deployment, and they were therefore covered by the same risk assessments. However, in Area B responders from the FRS were not seconded to the Police. Whereas some responders from the FRS (P1 & P8) in this area commented that the FRS and Police responders conducted joint risk assessments when arriving at an incident, one responder from the Police (P7) said that sometimes challenges were created on scene due to the FRS responders having less appetite for risk than the Police. This responder commented how on occasions this created operational challenges when FRS responders would not do certain tasks that were not covered by their risk assessments:

The Fire er had a completely different level of appetite for risk [...]. I remember going to one erm job [...], I was trying to manage 30 plus people inside that house, now I was trying to clear them out [...], so I was like, well I could do with a little bit of help [...] there was people everywhere [...] [the FRS responders] were sat in the car, and just watching me struggling to get these people out [...]. I was just like, look please can you come in (P7, B).

Yet despite the fact that this difference in risk appetite created some operational challenges for the team, this responder said that when risk concerns were not present, everyone usually "chipped in" and helped.

3.2.2.4. Overcoming negative preconceptions. Half of the responders discussed negative preconceptions about the other organization as a potential barrier to effective multi-agency working. Some responders (P11, A & P2, A) said this preconception stemmed from historically strained relationships with the other group, while others said it was created by differences between the services (P1, B), or them not having worked together so closely before (P9, A). Some responders said that because of this they were initially hesitant to join PMART (P7, B), or that they didn't think PMART would work (P5, A; P10, A & P11, A).

Discussing the differences between PMART and other multi-agency responses, one responder said that PMART is unique in bringing the two organizations to work so closely together:

The whole team works as one, which has been very rare previously because you will always get the differences [...], the Fire Service, the Police Service, are often at polar opposites (P1, B).

However, despite these negative preconceptions and initial hesitations upon joining PMART, all responders who discussed this then said that working together on PMART helped break down any barriers they felt had previously been present. One (P9, A) said that PMART has helped to build bridges between the two organizations. Another said although previously the two organizations had worked together because they had to, there wasn't a good relationship between them and that working together on PMART had helped to build that relationship:

I think we've always been professional, but I'm not quite sure that the relationship was a particularly warm one [...], yeah we'll work with you because you know, that's what we have to do under [...] JESIP [...] but we would never be that pally with each other, and I, again, normally it's an incident which will roll for a few hours [...] whereas obviously this was for a period of weeks [...] and again, after all, I think those relationships were built, and do you know what, police officers you're, you're alright, and then firefighters, you're alright, erm and of course that gets fed back to all of their crews [...], yeah the Old Bill they're good fun, and, and likewise, it gets fed back to our, ah the firefighters are great, they're really nice guys and girls, so it's a safe relationship (P11, A).

One responder suggested it was not necessarily PMART that helped break down barriers, but that simply working together as a multi-agency team helped to build relationships:

Just breaking down, you know, any weird barriers that have traditionally been set up between the different services, or any, I don't know, snobbery or like a hierarchy or anything like that. I just think any multi-agency working kind of eradicates that through necessity (P2, A).

Finally, one responder observed that the new relationships that had been built between the two organizations would facilitate multi-agency working not just in the present COVID-19 response, but also in any *future* multi-agency working:

I think we've gone a long way in actually repairing that rift between our two organizations, and I think if we have to work together in the future, take the lessons learned from this er and I think we'll work together much better in the future because of the work that we did with PMART (P11, A).

4. Discussion

In this study, we were interested in advancing a social identity perspective on interoperability in the emergency services that was first outlined by Davidson et al. [7]. For this purpose, interviews were conducted with Police and FRS responders who were involved in PMART to understand (a) whether there was any evidence of a shared identity between responders (RQ1), (b) what factors facilitated or challenged effective multi-agency working (RQ2), and (c) whether a sense of shared identity was bound up with any of the factors that facilitated or challenged effective multi-agency working (RQ3; see Fig. 1). The discussion is structured around these research questions.

4.1. Was there any evidence of a shared identity between responders?

The presence of a shared identity in the multi-agency groups is evidenced through responders discussing two *superordinate identities*. First, they discussed seeing themselves primarily not as members of their own organization (i.e., FRS or Police) but rather as members of the collective group *PMART*. In this context, responders reported that their primary role was as a member of PMART, rather than as a member of the Police or the FRS and that this resulted in a sense of unity or equality within the team.

Second, responders also discussed the fact that the 'common thread' of all being '*blue-light*' workers helped bring them together as a group. This again suggests that responders were attuned to their similarities (as blue-light workers), rather than their differences (as Police or FRS), when viewing themselves in terms of group identity. Further, all responders who discussed the superordinate identity of blue-light workers also discussed the superordinate identity of PMART, suggesting that responders had multiple superordinate identities that helped them come together as a group (cf., [34]; for superordinate identities in military teams).

The importance of these two superordinate identities is consistent with the logic of the Social Identity Approach, in so far as this points to the fact that people typically have multiple social identities which become salient in different contexts (e.g., Ref. [23]. Yet, in the current study, the two superordinate identities discussed differ in origin and as a result may have developed, or become salient, through different processes. 'PMART as an identity' is specific to the current situation (i.e., coming together to be part of PMART), whereas 'blue-light services' as an identity was pre-existing and developed through responders' collective similarity of being part of the emergency services. These processes are discussed in more detail below.

4.2. What factors facilitated or challenged multi-agency working, and was a sense of shared identity bound up with any of these factors?

The *shared difficult experience* that responders discussed during their deployment to PMART was reported as being a key facilitator in their multi-agency working. In this sense, it appears the responders experienced a sense of '*common fate*' — "a coincidence of outcomes among two or more persons that arises because they have been subjected to the same external forces or decision rules" [35; p.118). In research on behaviour in mass emergencies, a shared sense of common fate among group members has been shown to facilitate the development of a shared social identity [36], which subsequently increases the ability of a group to work together effectively [19,21].

In addition to shared experience, responders also discussed how the *duration of contact* with each other helped them work together. Specifically, in this context it was the duration of *positive* contact with each other that facilitated multi-agency working. In particular, responders discussed how spending time together during their deployment on PMART, and providing each other with both emotional and physical support, reflected the ways in which they would usually deal with such situations in their own organization. Although these teams only worked together temporarily (for a period ranging from a few days to a few months), their time together highlighted to responders the similarities between their organizations. Applying what we know from the self-categorization principle of *fit* to this finding, it appears that increases in perceived similarity between the group members, which arose from spending time together, are likely to have contributed to making the fact they were all blue-light responders salient. Subsequently, this is likely to have increased the salience of this identity [25,27], in ways that increased responders' motivations to advance the interests of this multi-agency team. This finding that positive contact with each other helped facilitate multi-agency working and increased the salience of the blue-light identity, is in line with a large body of research which suggests that if there is cooperative and positive (rather than competitive) interaction between group members it can improve the relationships between them [37]; see Pettigrew & Tropp, 2006 for a review).

Despite this, challenges to multi-agency working were created in Area B due to the regular rotation of teams and the fact that Police and FRS responders worked different shift patterns. In this area, whilst relationships were able to be built with each other, these were not always able to be maintained and new relationships had to be regularly rebuilt due to the changing shift patterns. Thus, having limited time and positive contact with each other impacted the quality of the relationships that responders were able to build.

Whilst responders spoke positively about their shared superordinate identities and about how this helped facilitate multi-agency working, challenges seemed to arise when responders identified not in terms of their shared superordinate identity, but rather in terms

of their separate sub-group identities (e.g., as Police or FRS). First, the *negative preconceptions* responders had about the other organization initially compromised the groups' ability to come together because responders said they were hesitant to join PMART or were sceptical about how it was going to work. This finding echoes recent research which found that historic interactions between two police forces was a concern for responders from one police force when it came to collaboration [32]. Here the researchers observed that historic interactions created perceptions (either positive or negative, depending on the interaction) of other agencies who were involved in collaborations which subsequently had a bearing on behaviour.

Based on what we know from the self-categorization principle of *perceiver readiness* (or *accessibility*), these negative preconceptions are likely to increase the salience of responders' sub-group identities (either as a Police or FRS responder; [16,28]). However, we also know that this principle works in interaction with the principle of *fit* (as discussed above, see Ref. [26]; for an overview). This can help explain why these initial negative preconceptions did not appear to compromise the multi-agency working of the team throughout the response. Indeed, the increased understanding of the similarities between the two organizations (which was facilitated through positive contact with each other) is likely to have challenged these negative preconceptions and worked to increase the salience of the superordinate identities.

Nevertheless, when the sub-group identities did appear to be salient, this sometimes seemed to cause them to conflict with each other in ways that highlighted their differences. Challenges in multi-agency working appeared to be most prevalent in Area B where they had different shift patterns, line management, and risk assessments, as well as regular rotation of teams. This was evidenced in the challenges created by the shared location in this area, by different sub-group norms (e.g., sleeping on a night shift), and by the differing appetite for risk between the organizations. This suggests that whilst the processes discussed above worked to increase the salience of superordinate identities, other processes increased the salience of sub-group identities, at times causing them to conflict with each other, in ways that subsequently created operational challenges for multi-agency working.

In this study, the processes that increased sub-group identity salience, or created sub-group identities that conflicted with each other, appeared to be structural factors (e.g., inequalities in access to a shared building, not sharing risk assessments, having different shift patterns etc.). Echoing this, research has previously found that structural [11] and cultural [13] barriers hampered better collaboration and coordination of multi-agency working (see Ref. [12]; for discussion). For example, in a recent review looking at coordination between police officers, firefighters, and paramedics, Van Scotter and Leonard [13] observed that collaborative responses are often compromised by responders' failure to understand each other's organizational structure and functions, by a failure to understand which organization is responsible for a given task, and by infrequent collaboration with each other. This is in line with the understanding that shared identity is more than just a psychological phenomenon, and that shared identity should be understood not just in cognitive terms, but also in relation to structural factors (see Ref. [38] for discussion). In the present study, compared to Area A, there appeared to be a greater number of structural factors present in Area B that resulted either in challenges in superordinate identities developing or becoming salient (e.g., through different shift patterns and regular rotation of teams), or in sub-group identities conflicting with each other (e.g., through responders from different organizations having different risk assessments).

In line with this finding of sub-group identity salience, Zaghoul and Partridge [32] raised the question of whether organizations should align structural factors, including organizational norms and rules, during inter-organizational collaborations in order to achieve desired outcomes from the collaboration, or whether they should maintain separate norms and rules. However, in accordance with the Social Identity Approach, the importance of the sub-group identities should not be overlooked. In relation to this point, Mühlemann and colleagues recently presented the Social Identity Model of Organizational Change which suggests that employees will identify with a new organization, as well as adjusting to organizational change, more successfully if they are able to maintain their pre-existing social identity [39]. In this sense, the development of a successful group identity following two groups merging is facilitated when sub-group identities are not denied, but instead individuals are able to hold on to their sub-group identities. As such, with this model in mind, it could be argued that it is *because* the responders are Police or FRS responders that they are able to jointly identify as PMART, because PMART enables them to live out their identities as blue-light responders in ways that entail a similar mindset, values, and work ethic to those of their 'day job' in their respective organizations.

4.3. Strengths and limitations

This research provides an in-depth and unique perspective on multi-agency working from novel teams brought together for the COVID-19 response, and highlights processes that might facilitate or challenge the development of shared identities in these multi-agency teams. Furthermore, whilst recent research has examined social identity processes at the strategic and tactical levels of emergency response [7], this, to our knowledge, is the first study that examines these processes at an operational level. In this way, this research provides a valuable contribution to a growing body of literature seeking to better understand interoperability in multi-agency response.

However, because this is the first study to address social identity processes at an operational level, comparisons to other studies are necessarily limited. As a result, it is difficult to discern whether the same findings would occur using a different sample of participants. It will therefore be important for future research to examine social identity processes in operational multi-agency response using a variety of different responders in order to establish the generalisability of the present conclusions and recommendations.

Further, the present study does not provide objective evidence that shared identity was associated with improved interoperability. Accordingly, it would be useful for future research to explore this issue using other data collection methods, including observations of performance, and correlations with measures of social identification with the overall operation. Longitudinal and/or experimental research is also needed to provide direct evidence of a connection between social identification and effective multi-agency response.

Finally, the current study was focused on the COVID-19 response which has presented unique challenges for emergency responders in terms of the scale and complexity of the required response. Consequently, the generalisability of the findings to other multi-agency

responses is unclear. Certainly, it would be desirable for future research to examine social identity processes in more ‘typical’ multi-agency responses in order to ensure that recommendations are as useful and transferable as possible.

5. Conclusion

Based on the accounts from operational responders involved in the Pandemic Multi-Agency Response Teams across two areas in the UK during the initial months of the COVID-19 pandemic, Police and FRS responders appeared to share the pre-existing superordinate identity of all being members of the blue-light services. This was primarily made salient through positive contact with between members of the two groups. Additionally, the situational superordinate identity of ‘PMART’ was both created and made salient by positive contact between members of these two groups, as well as by the difficult experiences that responders shared. At the same time, although the salience of sub-group identities (i.e., as Police and FRS) appears to have contributed to the development and salience of the superordinate identity of ‘blue-light services’ in highlighting the commonalities between the two organizations, challenges to multi-agency working were created in Area B when structural factors that created conflict between sub-group identities were present. Together, these findings point to the relevance of the Social Identity Approach to the analysis of interoperability in emergency responses, and to ways in which insights from this approach can inform efforts to improve this in the future.

5.1. Practitioner points

- Responders from both the Police and Fire and Rescue Service share a common identity as emergency responders in the blue-light service. Processes that help to develop the salience of this superordinate identity should be supported and encouraged during multi-agency response — for example, through opportunities for positive contact with each other in the form of multi-agency briefings in which each service has the opportunity to communicate and engage with each other.
- During multi-agency responses, the difficult nature of the experience that responders are undergoing can help to bring them together as a group and to make their joint superordinate identity salient. Responders should be given time and space to be able to discuss their shared experiences with each other either after a response, or during if the response is prolonged (such as in COVID-19). For example, joint multi-agency debriefs following an incident, as well as multi-agency training events can provide responders with time and space to communicate with each other and share experiences.
- Structural factors that highlight the differences between organizations can create challenges in joint working during a multi-agency response. Because of this, during multi-agency responses structural differences, and the salience of these differences, between organizations should be minimised. For example, communication around the impact of different risk assessments between organizations should seek to minimise the operational impact of these differences.

Data access statement

Data is available upon reasonable request.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijdr.2022.103101>.

References

- [1] K. Pollock, Review of Persistent Lessons Identified Relating to Interoperability from Emergencies and Major Incidents Since 1986, 2013. Retrieved from <http://www.jesip.org.uk/wp-content/uploads/2013/07/Pollock-Review-Oct-2013.pdf>.
- [2] K. Pollock, Local Interoperability in UK Emergency Management: A Research Report, 2017. Retrieved from https://www.researchgate.net/publication/336719370_Local_Interoperability_in_UK_Emergency_Management_A_Research_Report_Commissioned_by_the_Cabinet_Office_and_the_Emergency_Planning_College.
- [3] K. Pollock, "Lessons Will Be Learned" A Euphemism for Failure?, 2021. Retrieved from https://www.researchgate.net/publication/348235663_Lessons_Will_Be_Learned_A_euphemism_for_failure.
- [4] K. Pollock, E. Coles, Minding the gap: from recommendation to practice in crisis management. Exploring the gap between "lessons identified" during Exercise Cygnus and the UK government response to COVID-19, *Journal of Emergency Management* 19 (4) (2021), <https://doi.org/10.5055/jem.0596>.
- [5] Kerslake, The Kerslake Report: an Independent Review into the Preparedness for, and Emergency Response to the Manchester Arena Attack on 22nd May 2017, 2018. Retrieved from https://www.jesip.org.uk/uploads/media/Documents%20Products/Kerslake_Report_Manchester_Are.pdf.
- [6] M. Moore-Bick, Grenfell Tower Inquiry: Phase 1 Report; Report of the Public Inquiry into the Fire at Grenfell Tower on 14 June 2017, vol. 4, 2019. Retrieved from, <https://www.grenfelltowerinquiry.org.uk/phase-1-report>.
- [7] L. Davidson, H. Carter, R. Amlôt, J. Drury, S.A. Haslam, M. Radburn, C. Stott, A Social Identity Perspective on Interoperability in the Emergency Services: Emergency Responders' Experiences of Multi-Agency Working during the COVID-19 Response in the UK, *Qeios*, 2021, <https://doi.org/10.32388/MHJTNY>. Retrieved from.
- [8] M. Radburn, C. Stott, R. Bryant, B. Morgan, D. Tallent, L. Davidson, Group Processes and Interoperability: a Longitudinal Case Study Analysis of the UK's Civil Contingency Response to Covid-19, *SocArXiv*, 2021. Retrieved from: <https://osf.io/preprints/socarxiv/dnv4h/>.
- [9] Joint Emergency Services Interoperability Principles [JESIP], Joint Doctrine: the Interoperability Framework, 2013. Retrieved from: <https://www.ukfrs.com/sites/default/files/2017-09/JESIP%20Joint%20Doctrine%20-%20The%20Interoperability%20Framework.pdf>.
- [10] Joint Emergency Services Interoperability Principles [JESIP], Joint Doctrine: the Interoperability Framework; Edition 3 (October 2021), 2021. Retrieved from, https://www.jesip.org.uk/uploads/media/pdf/JESIP_Joint_Doctrine_Guide_OCT21.pdf.
- [11] J. Parry, E. Kane, D. Martin, S. Bandyopadhyay, Research into Emergency Services Collaboration (Emergency Services Working Group Research Project), 2015. Retrieved from <https://rke.abertay.ac.uk/en/publications/research-into-emergency-services-collaboration>.
- [12] P. Wankhade, S. Patnaik, Collaboration and Governance in the Emergency Services. Issues, Opportunities and Challenges, Palgrave Macmillan, 2020.
- [13] J.R. Van Scotter, K.M. Leonard, Clashes of cultures during crises: coordinating firefighters, police and paramedic interactions, *Disaster Prev. Manag.: Int. J.* (2022), <https://doi.org/10.1108/dpm-09-2021-0273>.
- [14] H. Tajfel, J. Turner, An integrative theory of intergroup conflict, in: W.G. Austin, S. Worchel (Eds.), *The Social Psychology of Intergroup Relations*, Wadsworth, Monterey, CA, 1979.
- [15] J.C. Turner, M.A. Hogg, P.J. Oakes, S.D. Reicher, M.S. Wetherell, *Rediscovering the Social Group: a Self-Categorization Theory*, Blackwell, Oxford, UK, 1987.
- [16] J.C. Turner, P.J. Oakes, S.A. Haslam, C.A. McGarty, Self and collective: cognition and social context, *Pers. Soc. Psychol. Bull.* 20 (1994) 454–463.
- [17] J.C. Turner, Towards a cognitive redefinition of the social group, in: H. Tajfel (Ed.), *Social Identity and Intergroup Relations*, Cambridge University Press, Cambridge, 1982, pp. 15–40.
- [18] S.A. Haslam, C. Haslam, T. Cruwys, J. Jetten, S. Bentley, P. Fong, N.K. Steffens, Social identity makes group-based social connection possible: implications for loneliness and mental health, *Current Opinion in Psychology* 43 (2022) 161–165, <https://doi.org/10.1016/j.copsyc.2021.07.013>.
- [19] S.A. Haslam, J. Jetten, C. Waghorn, Social identification, stress and citizenship in teams: a five-phase longitudinal study, *Stress Health* 25 (1) (2009) 21–30.
- [20] S. Reicher, R. Spears, S.A. Haslam, The social identity approach in social psychology, in: M.S. Wetherell, C.T. Mohanty (Eds.), *Social Identities Handbook*, Sage, London, 2010.
- [21] J. Drury, C. Cocking, S. Reicher, The nature of collective resilience: survivor reactions to the 2005 London bombings, *Int. J. Mass Emergencies Disasters* 27 (1) (2009) 66–95.
- [22] S.A. Haslam, S.D. Reicher, M. Levine, When other people are heaven, when other people are hell: how social identity determines the nature and impact of social support, in: J. Jetten, C. Haslam, S.A. Haslam (Eds.), *The Social Cure: Identity, Health and Well-Being*, Psychology Press, 2012, pp. 157–174.
- [23] L.J. Millward, S.A. Haslam, Who are we made to think we are? Contextual variation in organizational, workgroup and career foci of identification, *J. Occup. Organ. Psychol.* 86 (2013) 50–66, <https://doi.org/10.1111/j.2044-8325.2012.02065.x>.
- [24] R. van Dick, U. Wagner, J. Stellmacher, O. Christ, Category salience and organizational identification, *J. Occup. Organ. Psychol.* 78 (2) (2005) 273–285, <https://doi.org/10.1348/096317905x25779>.
- [25] P.J. Oakes, The salience of social categories, in: J.C. Turner, M.A. Hogg, P.J. Oakes, S.D. Reicher, M.S. Wetherell (Eds.), *Rediscovering the Social Group: A Self-Categorization Theory*, Blackwell, Oxford, 1987, pp. 117–141.
- [26] J.C. Turner, K.J. Reynolds, Self-categorization theory, in: P.A.M. Van Lange, A.W. Kruglanski, E.T. Higgins (Eds.), *Handbook of Theories of Social Psychology*, 2012, pp. 399–417, <https://doi.org/10.4135/9781446249222.n46>. Retrieved from.
- [27] S.A. Haslam, *Psychology in Organizations: the Social Identity Approach*, Sage, London, 2004.
- [28] P.J. Oakes, S.A. Haslam, J.C. Turner, *Stereotyping and Social Reality*, Blackwell, Oxford, 1994.
- [29] Civil Contingencies Act, Civil Contingencies Act, 2004. Retrieved from: <https://www.legislation.gov.uk/ukpga/2004/36/contents>.
- [30] London Fire Brigade, New Teams Set up in London to Respond to Covid-19 Deaths in the Community, 2020. Retrieved from: <https://www.london-fire.gov.uk/news/2020-news/april/new-teams-set-up-in-london-to-respond-to-covid-19-deaths-in-the-community/>.
- [31] N. Power, L. Alison, Redundant deliberation about negative consequences: decision inertia in emergency responders, *Psychol. Publ. Pol. Law* 23 (2) (2017) 243–258, <https://doi.org/10.1037/law0000114>.
- [32] F. Zaghoul, J. Partridge, Enabling policing to be better: lessons from two case studies in police collaboration, *Policing* (2022) 1–17, <https://doi.org/10.21428/cb6ab371.246e9b46>.
- [33] V. Braun, V. Clarke, Using thematic analysis in psychology, *Qual. Res. Psychol.* 3 (2) (2006) 77–101, <https://doi.org/10.1191/1478088706qp0630a>.
- [34] S. Schilling, *Cohesion in Modern Military Formations: a Qualitative Analysis of Group Formation in Junior, Specialised and Ad-Hoc Teams in the Royal Marines*. Kings College London, United Kingdom, 2019.
- [35] M.B. Brewer, Superordinate goals versus superordinate identity as bases of intergroup cooperation, in: D. Capozzo, R. Brown (Eds.), *Social Identity Processes: Trends in Theory and Research*, Sage, London, 2000, pp. 117–132.
- [36] J. Drury, The role of social identity processes in mass emergency behaviour: an integrative review, *Eur. Rev. Soc. Psychol.* 29 (1) (2018) 38–81, <https://doi.org/10.1080/10463283.2018.1471948>.
- [37] G.W. Allport, *The Nature of Prejudice*, Addison Wesley, Cambridge, MA, 1954.
- [38] A. Templeton, S.T. Guven, C. Hoerst, S. Vestergren, L. Davidson, S. Ballentyne, S. Choudhury, Inequalities and identity processes in crises: recommendations for facilitating safe response to the COVID-19 pandemic, *Br. J. Soc. Psychol.* 59 (3) (2020) 674–685, <https://doi.org/10.1111/bjso.12400>.
- [39] N.S. Muhlemann, N.K. Steffens, J. Ullrich, S.A. Haslam, K. Jonas, Understanding responses to an organizational takeover: introducing the social identity model of organizational change, *J. Pers. Soc. Psychol.* (2022), <https://doi.org/10.1037/pspi0000386> (Advance online publication).
- [40] J. Saunders, Report of the Public Inquiry into the Attack on Manchester Arena on 22nd May 2017, 2021. Retrieved from https://files.manchesterarenaenquiry.org.uk/live/uploads/2021/06/17164904/CCS0321126370-002_MAI-Report-Volume-ONE_WebAccessible.pdf.
- [41] M. Moore-Bick, Grenfell Tower Inquiry: Phase 1 Report; Report of the Public Inquiry into the Fire at Grenfell Tower on 14 June 2017, vol. 1, 2019. Retrieved from <https://assets.grenfelltowerinquiry.org.uk/GTI%20-%20Phase%201%20full%20report%20-%20volume%204.pdf>.
- [42] Govuk, Novichok Nerve Agent Use in Salisbury: UK Government Response, March to April 2018, 2018. Retrieved from, <https://www.gov.uk/government/news/novichok-nerve-agent-use-in-salisbury-uk-government-response>.