

A critical appraisal of individual social capital in crisis response

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Abstract

While there is still a vast body of scholarly research in crisis and disaster management that considers social capital an asset for lessening negative impacts from crises, this paper investigates an underexplored aspect of social capital—its microlevel positive and negative instances in the crisis response—a quite neglected phase of the crisis management cycle when it comes to studying the role of social capital. To underline social capital's double-edged aspects, this paper draws from the handful of studies that focus on individual social capital in crisis response, to systematize their findings according to bonding, bridging, and linking social capital and positive and negative impacts. In addition, the paper considers these findings to analyze the 2011 Utøya terrorist attack in Norway, to uncover new positive and negative effects of individual social capital, thus contributing to pushing the research agenda toward a more critical appraisal of individual social capital.

KEYWORDS

crisis response, double-edged, social capital

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INTRODUCTION

Social capital has become a key concept in crisis and disaster management research (Meyer, 2018), since it is extensively studied to understand how people behave (see Albrecht, 2018; Roque et al., 2020) when faced with exogenous and disturbing events that may be not easy to predict, understand and influence, such as natural and man-made crises (see Rosenthal et al., 1989, 2001; Schneider, 1995). In this context, social capital can be considered an important aspect of resilience (Aldrich, 2012), since it is built and exists before the triggering of negative events (Comfort et al., 2010). Several conceptualizations and operationalizations have been provided, each of them emphasizing different aspects of social capital as the most salient in crises and disasters and considering individuals, communities, or groups as units of analysis. Indeed, the term has become very popular in its two main methodological operationalizations: social capital measured at the individual microlevel and social capital measured at the aggregate macrolevel. We refer to the former as individual social capital and to the latter as collective social capital. Individual social capital represents the composition of an individual's accumulated social capital, which, to some extent, can be influenced by individuals through various networking strategies. Individual social capital affects how individuals cope in various situations and access available resources (see Bourdieu, 1986). Collective social capital is a more civic aspect of societies, communities, and groups (but not the sum of individuals' social capital), for example, the general level of trust between members, or in authorities. However, how to interpret and measure social capital to retain a high degree of internal and external validity is still extensively debated (Adler & Kwon, 2000, 2002; Bhandari & Yasunobu, 2009; Castiglione, 2008; Engbers et al., 2017; Johnston & Percy-Smith, 2003).

This paper contributes to this broad debate by addressing research challenges stemming from the study by Meyer (2018), who, at the time of writing this paper, offers one of the most complete overviews on publications regarding social capital in hazards and disasters. Mapping 195 studies published between 1998 and 2015, she categorized them according to individual or collective social capital, man-made or natural crises and disasters, and phases of the crisis management cycle¹ in which social capital was analyzed. First, from Meyer's study, it is clear that most of the research on social capital focuses on its benefits and reaches the general conclusion that social capital is an asset to enhancing resilience. The consideration of social capital as having a dark side, Janus-faced or double-edged has mainly been promoted by Aldrich and Crook (2008), Gannon (2013), Kage (2013), MacGillivray (2018), and Tierney (2013), who pursue a research agenda in which "social capital needs to be seen as potential source of *both* benefits and costs" (Aldrich, 2014, p. 169, italics in the original). Nonetheless, research that sheds light on the ambiguity of social capital is still *niche*, compared with the numerous publications only on the positive effects of social capital. In addition, by mapping social capital at the individual level and as a collective good, Meyer's study shows that the largest bulk of the research analyses social capital as a collective good, having communities as the unit of analysis, while individual social capital is more seldom addressed. Furthermore, we can also conclude that there is a greater scientific interest on social capital in the recovery phase (and at community level) (see Adger, 2003; Akbar & Aldrich, 2018; Aldrich, 2011a, 2011b; Minamoto, 2010; Nakagawa & Shaw, 2004) than in the response phase (see Jovita et al., 2019; Karunarathne & Lee, 2019; Tierney & Goltz, 1997; Yamamura, 2016). Preparedness is also quite well explored (see Paton, 2007), either alone or together with recovery (see Murphy, 2007), within which social capital is generally regarded as enhancing resilience (see Kyne & Aldrich, 2020; Nævestad, 2020). Finally, Meyer shows that several types of man-made and natural crises have been studied to various degrees. However, beyond the broad division, man-made/natural, a problematization of the

characteristics of crises—creeping (Boin et al., 2020), predictable and influenceable (Gundel, 2005), with fast or slow development patterns ('t Hart & Boin, 2001)—in terms of which effects they have on social capital, seems absent from the scientific discussion.

Against this backdrop, this paper aims to investigate both the positive and negative impacts of social capital for people who are in the response phase of a crisis, through the findings of two systematic literature reviews and the discussion of a concrete empirical example, the Utøya terrorist attack in Norway in 2011. Achieving this aim, the paper fills important research gaps, as it contributes to increase the knowledge of positive and negative impacts of social capital at microlevel. Inspired by Bourdieu's approach (1986), who analyses how people in various situations draw on their (cultural, economic, and social) capital, the paper examines how individual social capital influences coping in crises according to the three forms of bonding, bridging, and linking social capital. Furthermore, the paper focuses on the response, which is a quite neglected phase of the crisis management cycle. Finally, since crises represent a test to social capital, and, therefore, for resilience or vulnerability, we aim to investigate the role of peoples' individual social capital when faced by an unexpected crisis, like the 2011 Utøya terrorist attack.

The paper is structured as follows: first, we present theoretical perspectives on individual social capital. Then, we describe the methods of the study. We continue by presenting the findings of the reviews, concerning the main scientific contributions on social capital in crises and disasters and our *niche* research on the role of individual social capital in response. In the following sections, we give an overview of the Utøya terrorist attack and, then, we discuss our case using the findings from the literature reviews to analyze the individual response and add new double-edged aspects on individual social capital in crisis response.

THEORETICAL PERSPECTIVES ON INDIVIDUAL SOCIAL CAPITAL

Individual social capital

Social capital has been theorized as both a collective (Putnam, 1993) and individual resource (Bourdieu, 1986; Coleman, 1988). According to the French sociologist Pierre Bourdieu, one of the most influential scholars in the study of social capital, along with economic, symbolic, and cultural capital, individuals possess social capital, 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 or recognition” (Bourdieu, 1986, p. 248). Central to Bourdieu's understanding of social capital is that it stems from the interplay between economic and cultural capital and is, therefore, unequally distributed and reinforces hierarchies. Social capital is a resource used by individuals, who usually invest time and energy to build networks consisting of people with whom both economic and cultural capital may be transacted, converted, or reinforced, and where personal favors are traded in reciprocity (Bourdieu, 1986). In addition, each individual possesses a volume of social capital, which is related to the size of the network(s) and the forms chosen to mobilize this network (Bourdieu, 1986). Networks are important since they enhance social cohesion, enabling individuals to cooperate with each other within the network but also with members of other networks. This leads to mutual benefits (Field, 2008). Coleman outlines the different aspects of social capital as obligations and expectations, information, and social norms—including sanctions (Coleman, 1988, p. 95). Portes (1998) also considers social capital in its individual level of analysis as the number of

resources an individual obtains from his/her own social networks. These resources can be family ties, friends, information, money, and so forth. In addition, he points out that social capital can have positive and negative aspects. While positive social capital consists of the establishment of solidarity and trust, individuals within a network can establish such strong ties that it is impossible to break them, damaging their freedom to eventually move out of the group. He uses as examples ghettos, gangs, and organized crime, where belonging to the network means accepting its rules and traditions, including isolation from the rest of society. At the same time, the network is so closed that individuals from the outside cannot gain access.

Bonding, bridging, and linking social capital

A rather broad operationalization of social capital distinguishes three forms, namely, bonding, bridging, and linking social capital, with distinct functions. Bonding social capital refers to close relationships between individuals, such as friends or family, and can be driven by culture, religion, ethnicity, and identity. In addition, these close horizontal ties commonly hold the same type of information. Bridging social capital allows for horizontal linkages to external assets and draws individuals, groups, and communities closer to other individuals, groups, and communities. Bonding social capital represents internal ties and tends to emphasize exclusive characteristics and to support uniformity and potential cooperation, while bridging social capital tends to reinforce inclusive identities, solidarity, and reciprocity among social entities with different backgrounds (see Gittel & Vidal, 1998; Putnam, 1995). Some scholars argue that excessive bonding social capital negatively affects the wider society, since it tends to reinforce exclusive identities and tribalism (Daly & Silver, 2008; Svendsen, 2006). According to Woolcock (2001), the bonding ties refer to relations between individuals in similar situations, such as family members, close friends, and neighbors, while the bridging ties refer to more distant friends, associates, and colleagues. Finally, linking social capital connects individuals, groups, and communities with those that hold positions of authority and power, such as politicians, public administrators, and so forth (see Szreter, 2002; Szreter & Woolcock, 2004).

The role of individual social capital in crisis response

In the response phase, individual social capital can be defined "...as the personal social networks of family, friends, neighbors, acquaintances, and organizations, whom he [the individual] perceives as potential or actual provider of assistance during and/or after a disaster. It has two clear components [...]—a 'durable' social network and the amount and quality of available resources to be passed through the network ties" (Misra et al., 2017, p. 281). This definition points out that networks are a central component of individual social capital, while resources are channeled through these networks during the response.

Furthermore, since this paper considers one particular phase of the crisis management cycle, we must consider carefully what we mean by the response phase. Response consists of "Actions taken immediately before, during, or directly after an emergency occurs, to save lives, minimize damage to property, and enhance the effectiveness of recovery" (Godschalk, 1991, p. 136). These actions can be characterized by protective responses, information searches, resource mobilizations, and so forth (Lindell & Perry, 2012). In addition, they are performed by public authorities

and emergency personnel from organized institutions (Civil Protection, Civil Defence, blue-light, Red Cross and Red Crescent societies' emergency services, and so forth), civil or grass root organizations, and unaffiliated volunteers (see Max, 2021). Responses from authorities and organization often intertwine with those from directly impacted individuals (Kruke, 2015; Murphy, 2007). This paper focuses on the latter, since the first response usually comes from those directly affected by the crisis and not from the emergency personnel (Aldrich, 2012; Kruke, 2012; Perrow, 2007).

Although timewise the response phase is (or should be) short-term, to alleviate immediate needs, it is, nonetheless, the most challenging phase of the crisis management cycle to analyze. Its duration is difficult to establish since some actions can blurrily overlap with recovery or even with preparedness. Indeed, the division of the cycle can work for analytical purposes in research but is less clear-cut on the ground. Furthermore, individuals involved in the same crisis may not respond in the same way (Neal, 1997). Response may be "a classic situation involving collective action for mutual benefit" (Dynes, 2002, p. 3), but it greatly depends on how individuals behave and the degree of situational awareness (see Endsley, 1995; Salas et al., 1995), sensemaking (see Boin et al., 2016; Weick, 1993; Weick et al., 2005) and, in general, the ability to respond in a reliable way. Individual's behavior may worsen the situation and damage mutual benefits, and it varies with personal characteristics (age, gender, socioeconomic situation, education, type of household, beliefs, etc.) and social contexts (Dash & Gladwin, 2007). Nonetheless, "the utilization of social capital" (Dynes, 2002, p. 40) occurs in the response. When a crisis or a disaster happens, everyday life patterns suffer disruption and interruption, which cause changes in an individual's behavior (Fritz, 1961). In the response, individuals may struggle to make sense of the situation; they can become confused and disoriented, in the so-called milling phase (Schneider, 1995). Furthermore, individuals' social capital in the pre-crisis varies: some individuals have maintained ties and bonds with family and friends. Others have developed stronger ties via bridging social capital. Still others, by choice or by obligation, live more detached from the rest of the society.

METHODOLOGY AND METHODS

The overall analytical approach of this paper is akin to a hermeneutical process, guided by the following general explorative conjecture: if (individual) social capital is connected to its existence and usefulness in a noncrisis setting, would its role and value change in enhancing resilience or fostering vulnerability when a crisis occurs? We searched theoretical and empirical studies in English from the last 15–20 years on the role of social capital in the research field of disaster and crisis management, by means of literature searches and the snowball method to collect data (Noy, 2008). Then, since this paper's focus is individual social capital in the response phase, we organized relevant data according to three forms of social capital: bonding, bridging, and linking (see Table 1). Once the table was completed, we used it to analyze the behavior of the young people on Utøya. Meyer's study was a good starting point to find relevant publications, but we used different search strings.

Systematic literature reviews

Two systematic literature reviews were performed, the first between May to September 2019 (Nævestad, 2020) and the second in spring 2021. The first search was based on the

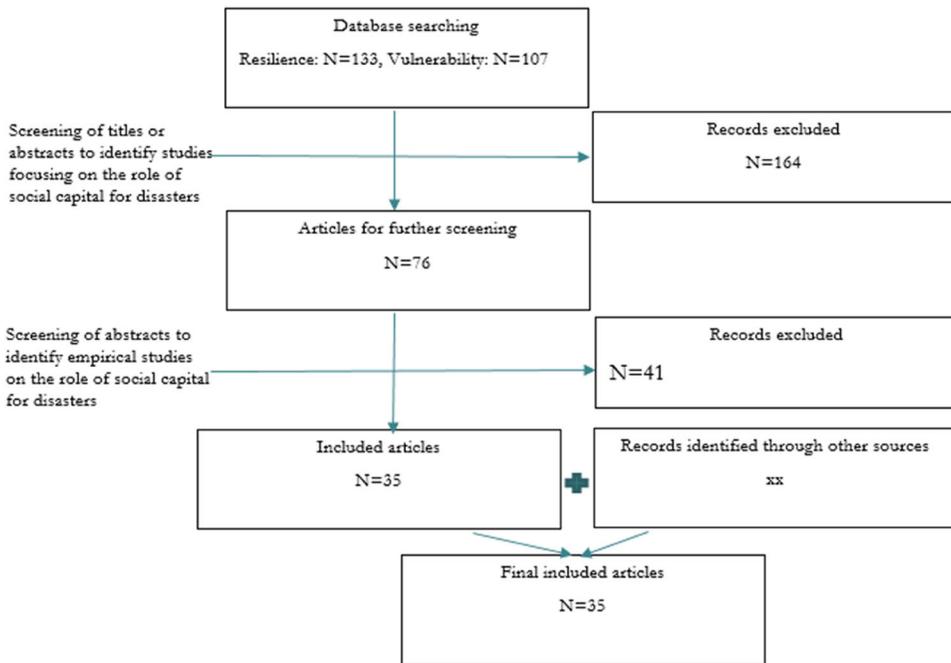


FIGURE 1 The numbers of search results and studies screened, assessed, and included in the first review

ScienceDirect, a database including scientific studies, primarily journal papers, but also book chapters and proceedings. We selected publications according to the search strings, “social capital” AND “vulnerability”/“social capital” AND “resilience,” in the title, the abstract, or as keywords. After the first screen and second screen to identify relevant studies and to remove duplicates, we identified 35 studies (Figure 1).

The second search was performed in Google Scholar, to trace articles from several journals and books. We used the following research strings: “response” AND “individual social capital” AND “crisis” AND “disaster,” obtaining 248 research results. From these, we selected those which were relevant for the aim of this paper: (1) addressing individual social capital in the response, theoretically and empirically; (2) debating positive and negative aspects. The final number of included articles was 20.

Review of literature on 2011 Utøya terrorist attack

The data concerning the case of Utøya are separate from the literature searches. Interviews with survivors from the Utøya terrorist attack would have been the method with the highest internal validity. However, this was not feasible, since the survivors of 22 July attacks, having undergone life-threatening situations, are protected against requests for interviews. The Norwegian government appointed a coordinating group to channel these requests (Refsdal, 2014), which are time-consuming and seldom accepted. In addition, they must undergo several rounds of ethical approvals. As such, this paper relies on three studies. In her studies on how the young people used their social media to communicate with their networks during and after the Utøya terrorist attack, Elsebeth Frey interviewed eight survivors (Frey, 2018a, 2018b), on their use of social media during the response (Frey, 2018b) and their evaluation of the opportunities and challenges of using social media

during the attack (Frey, 2018a). Filkuková et al. (2016) interviewed 325 survivors from Utøya, 4–5 months after the attack, on trust and fear issues. Although the use of social capital during the actual response was not the focus, these three studies have been a unique source for this paper. In addition, the 22 July Commission Report (NOU 2012:14, 2012) was scrutinized, since it contains information on the young people's response behavior. Finally, some articles retrieved from Norwegian online newspapers were also used, mainly to enrich, with more detailed information, the findings from the three studies and the Report.

FINDINGS FROM THE LITERATURE REVIEWS

In the time-dimension phases of the cycle—mitigation, prevention, preparedness, response and recovery, social capital is studied in terms of degrees of trust and collective actions at the aggregate level, while at individual level, social capital is regarded as fundamental to attract and control resources, as well as to access them through social networks (see Aldrich & Meyer, 2015; Allen, 2006; Bihari & Ryan, 2012; Cox & Perry, 2011; DeYoung & Peters, 2016; Hawkins & Maurer, 2010; Murphy, 2007; Patterson et al., 2010; Wisner, 2003; Wood et al., 2013).

Results from the first literature review

First, we notice that term “community” lacks a single, universally accepted definition (see McMillan & Chavis, 1986). Defining community boundaries remains an issue of debate, since it has consequences at theoretical and methodological levels (see Mulligan et al., 2016) in studying social capital in crises and disasters. In some studies, community simply means individuals who are affected by the same crisis or disaster—the common experience allowing them to be labeled as a community (see Zahnow et al., 2019). In others, it means groups of people sharing certain ethnic and/or socioeconomic characteristics (the Afro-American community, for instance; see Dyson, 2006). Nonetheless, we can conclude that there remains a strong focus on social capital as public good, while social capital at the individual level is still relatively unexplored (see Sadri et al., 2018). Few studies approach social capital at the microlevel, both theoretically and methodologically. For instance, Albrecht (2018), Dussillant and Guzmán (2014), and Yamamura (2016), theorize social capital as a private resource and analyze it accordingly in different phases of the crisis management cycle, when natural crises strike. Second, most of the studies focus on empirical settings in Asia, followed by North America. Several of the latter studies focus on the experiences related to the hurricane Katrina. Very few studies focus on crises that have occurred in Europe, despite an increase of crises caused by wildfires, extreme heat, floods, and drought, for instance (see Wolf et al., 2010). Third, it is mainly through the analytical division of bonding, bridging, and linking social capital that social capital is assessed as ambivalent factor in the various phases of the cycle (see Lo & Fan, 2020; Wilkin et al., 2019), especially according to the view that the resourcefulness of some potentially “works to the detriment of others” (Tierney, 2019, p. 181). On the one side, bonding and bridging social capital prove useful in providing social support and assistance, receive alerts, and undertake precautionary measures, especially during and after a crisis (Aldrich & Meyer, 2015), while linking social capital provides longer-term support (Falk, 2015). On the other side, bonding social capital can help family and in-groups recover more effectively, for instance, while at the same time slowing or halting rebuilding for those outsiders with fewer social resources. If bonding social capital is particularly strong, it can reinforce

existing discriminatory cultural norms that exclude from the recovery process certain social groups and communities, such as women and religious or ethnic minorities (Aldrich, 2011b; Ganapati, 2013; Hawkins & Maurer, 2010; Hollenbach & Ruwanpura, 2011; Kerr, 2018; Rahill et al., 2014), or reinforcing narratives that contribute to vulnerability, when a crisis unfolds (Lo & Fan, 2020; Wolf et al., 2010). In addition, individuals and communities may have deep reservoirs of bonding capital, allowing them to “get by,” while lacking linking social capital, preventing them from “getting ahead” (see Woolcock & Narayan, 2000). Furthermore, we miss a problematization on information sharing through bonding, bridging, and linking social capital. For instance, members of communities tend to rely on trusted community members or on the closest ties (family) to receive information (Ling et al., 2018; Zahnnow et al., 2019). Bridging social capital is important for spreading information to other people during crises. Linking social capital is relevant as for how information from authorities is interpreted (Procopio & Procopio, 2007; Taylor et al., 2012). However, while individuals and communities may share warnings and behavioral guidelines, they may also (inadvertently) share unverified or misleading messages that may actually increase others’ vulnerability (Hansson et al., 2020, 2021). Finally, it is not only the broad division of man-made and natural crises that influences social capital but also the characteristics of the crisis itself. For instance, crises can be fast-burning, slow-burning, cathartic and long-shadow, according to development and termination patterns (’t Hart and Boin, 2001). Other attributes of a crisis are predictability and the degree to which it is influenceable. Gundel defines predictability as the case “if place, time or in particular the manner of its occurrence [the occurrence of the crisis] are knowable to at least a third competent party and the probability of occurrence is not to be neglected” (Gundel, 2005, p. 109). According to Gundel (2005, p. 109), there are very few crises that are predictable in the narrow sense and known in terms of time, place, and considerable probability of occurrence. In addition, the degree to which crises are influenceable varies (Gundel, 2005, p. 109). It may be possible to influence a crisis in the degree to which responses stem the tide or reduce damage by antagonizing the causes of a crisis, which are known and possible to address. One of the most recent attributes is creeping crisis, defined as “a threat to widely shared societal values or life-sustaining systems that evolves over time and space, is foreshadowed by precursor events, subject to varying degrees of political and/or societal attention, and impartially or insufficiently addressed by authorities” (Boin et al., 2020, p. 122). Although some authors, like Aldrich (2011b), Bankoff (2007), and Dynes (2005), conclude that, generally, with crises of short duration, like earthquakes and flash floods, people tend to rely on family, neighbors, and friends (bonding and bridging social capital), we could not find studies on how the characteristics of crises influence social capital.

Results from the second literature review

What happens to individual social capital in the response? Is it so clear-cut that “Socially isolated individuals are less likely to be rescued, seek medical help, take preventative action (such as evacuating), or receive assistance from others [...]. Conversely, existing social networks provide effective search and rescue in removing victims, helping them to seek medical attention, and providing transportation to medical help locations” (Dynes, 2002, p. 16)? Is it so straightforward that individuals with many strong ties and networks are able to properly respond since they can easily gain access to resources via their own networks? To answer these questions, we present here studies fitting with our search strings of individual social capital in response to crises and as double-edged or with a dark side. We organized them according to the broad division between natural and man-made crises.

Natural crises

Buckland and Rahman (1999) were among the first researchers to cast a critical eye on negative aspects of individual social capital in the response phase. By means of a survey among the residents from three communities impacted by the Red River Flood in Manitoba, Canada, in spring 1997, the authors point out that the existence of preexisting networks, in terms of local civil organizations, allowed for cooperative behavior among some residents during the response. At the same time, the same preexisting networks fostered conflicts, due to flat decision-making in the evacuation phase. Another flood event was studied by Brouwer and Nhassengo (2006), who investigated individual (household) social capital during the response to the floods in Mabalane District, Mozambique, in 2000. Their findings demonstrate that the floods actually had a negative impact on the social capital of the wealthier households, which were not as able to mobilize their resources and receive help as the poorer households. The latter could count on a wider web of relatives and friends, who provided immediate support in terms of food and shelter. Casagrande et al. (2015) also studied flood response during the 2008 Mississippi River Floods. They showed how bonding social capital (mainly family and friends) made a difference in individuals' responses. Those relying on family and friends managed better than those relying mainly on the authorities (linking social capital). Rubin (2015) presented two surveys in Vietnamese provinces' households heavily impacted by flooding. He argued that, generally, linking social capital damaged households' response, since it was not embedded at local level regarding participation, cooperation, and risk-sharing processes. Haney (2018) provides a very dynamic understanding of social capital, investigating how it changed during the response to the 2013 Southern Alberta Flood by about 450 Calgary residents. Particularly, in questioning the evacuation experience of the residents, one of the main findings was that new ties were established, increasing bridging social capital, which then flourished in the aftermath. On the other side, evacuation from the neighborhood broke old ties, which could have been useful during the response.

Hurricanes

Several researchers have studied Hurricane Katrina of 2005, which has become a sort of paradigmatic case study on how much can go wrong in the response phase. Fussell (2006) focused on how evacuees activated their social networks during the response. His study showed that social networks were helpful for several evacuees to leave the city. At the same time, those individuals with weaker social networks were left behind, in addition to those who were isolated, stranded, or separated from their usual sources of social support. This negative side of social capital was confirmed in the case of physically disabled people (Brodie et al., 2006) and the elderly (Bytheway, 2007; Durant, 2011). Hawkins and Maurer (2010) showed both the positive and negative sides of social capital, in the response phase (and in the recovery phase). In their study, they measured the bonding, bridging, and linking social capital of individuals who lost their houses in New Orleans along racial and socioeconomic lines. Their conclusions show that bonding social capital guaranteed immediate support but was not able to guarantee the longer-term support that was then fundamental for recovery. This was particularly true for low-income individuals who belonged to the Afro-American community. This community was subject to a few studies, which shared common conclusions. For instance, Dyson (2006) looked at social capital through the racial and socioeconomic ties of individuals belonging to the New Orleans African American minority community. He argued that bonding and bridging social capital within homogenous communities can actually hamper a proper individual response. In the case of African Americans in New Orleans, outsiders were excluded, and this impacted negatively on information and resource sharing. Elliott et al. (2010) compared two groups

of New Orleans residents, both badly hit by the hurricane: one belonging to a disproportionately poor and African American neighborhood, the other to a disproportionately rich and white neighborhood. The researchers asked individuals belonging to these two different socioeconomic groups questions about their personal bonding and bridging social capital. The authors argued that inequalities in social capital due to pre-existing socioeconomic differences had a negative effect on the response, since the poor neighbors could count mainly on a bonding social capital, which was actually disrupted by the hurricane, while the bridging social capital was already weak before the disaster. In studying the evacuation process of three counties located in north-eastern North Carolina, due to Hurricane Isobel in 2003, Horney et al. (2010) underlined that those individuals with strong family ties (bonding social capital) actually took poor decisions in the evacuation phase, since they believed they could rely on family ties, which were disrupted by the hurricane.

Heatwaves

In their study of the role social networks play in individuals' responses to heatwaves in London and Norwich, Wolf et al. (2010) argue that strong bonding networks could potentially worsen rather than reduce the vulnerability of elderly people to the effects of heatwaves. Most of the old people they interviewed generally asserted that heatwaves did not pose a significant risk to them personally and that they would be able to cope with hot weather. The authors concluded that bonding networks strengthen these narratives rather than challenging them and, thus, contribute to vulnerability. In both crises, the response was based on misinformation and discredited government warnings. In an earlier study on the 1995 heatwave in Chicago, Semenza et al. (1996) found that those individuals participating regularly in church and social group activities—so, with established bridging social capital—had a lower risk of dying during the heatwave, since they could rely on that kind of help and support.

Papanikolaou et al. (2012) provided, through interviewing individuals involved in the wildfires in Greece in August 2007, findings about fatal consequences of weak bridging (low civic engagement) and linking social (low-trust) capital during the response to the fires.

Earthquakes

Bhandari's (2014) endeavor to interview 15 survivors from the 1934 Kathmandu Valley earthquake is remarkable in offering insights on the response to an old catastrophe still so vivid in the memory of the Kathmandu Valley inhabitants. His findings indicate that the bonding, bridging, and linking social capital of individuals need to be embedded in disaster planning before the negative event strikes. Otherwise, individual response is weak and likely to negatively influence recovery.

Man-made crises

Ritchie and Gill (2007), two of the few scholars who studied social capital in man-made (technological) crises, underlined that individual response is very much linked to social dynamics in general and social networks in particular. The latter can be impacted in such ways that they hamper or impede a proper response, since they are rendered dysfunctional or unavailable by the crisis. Also, Aldrich et al. (2020) were among the few scholars considering social capital in man-made crises, particularly humanitarian crises provoked by terrorist attacks in Uganda and Nigeria. Interviews with displaced

TABLE 1 Summary of results from research on double-edged individual social capital in crisis response

Role of individual social capital in the response	Bonding social capital	Bridging social capital	Linking social capital
Positive	<p><i>Significant number of family and relatives' ties—Brouwer and Nhassengo (2006)</i></p> <p><i>Strong family and friends' ties—Casagrande et al. (2015)</i></p> <p><i>Immediate support provided by family and friends' ties—Hawkins and Maurer (2010)</i></p>	<p><i>Pre-existing networks with cooperative behaviour—Buckland and Rahman (1999)</i></p> <p><i>Establishment of new and useful ties—Haney (2018)</i></p> <p><i>Immediate support provided by neighbours—Hawkins and Maurer (2010)</i></p>	<p><i>Not found</i></p>
Negative	<p><i>Modest number of family and relatives' ties—Brouwer and Nhassengo (2006)</i></p> <p><i>Weak family and friends' ties—Casagrande et al. (2015)</i></p> <p><i>Broken and disrupted family and friends' ties - Elliott et al. (2010), Haney (2018), Horney et al. (2010), Pitas and Ehmer (2020), Ritchie and Gill (2007)</i></p> <p><i>Limited in time support from family and friends' ties—Hawkins and Maurer (2010)</i></p> <p><i>Family and friends' ties not embedded in disaster planning—Bhandari (2014)</i></p> <p><i>Exclusive, inward-looking information and resource sharing—Dyson (2006)</i></p> <p><i>Strengthening wrong narratives—Wolf et al. (2010)</i></p>	<p><i>Pre-existing networks with flat decision-making—Buckland and Rahman (1999)</i></p> <p><i>Weak social network—Fussell (2006)</i></p> <p><i>Broken social network—Fussell (2006), Pitas and Ehmer (2020), Ritchie and Gill (2007)</i></p> <p><i>Lost/separation from usual sources of social support - Fussell (2006)</i></p> <p><i>Limited in time support from social network—Hawkins and Maurer (2010)</i></p> <p><i>Exclusive, inward-looking information and resource sharing - Dyson (2006)</i></p> <p><i>Weak networks - Elliott et al. (2010)</i></p> <p><i>Individual irregular participation in networks—Semenza et al. (1996)</i></p> <p><i>Individuals' low civic engagement—Papanikolaou et al. (2012)</i></p> <p><i>Networks not embedded in disaster planning—Bhandari (2014)</i></p>	<p><i>Only resource to rely on—Casagrande et al. (2015)</i></p> <p><i>Not embedded at local level in terms of participation, cooperation and risk sharing—Rubin (2015)</i></p> <p><i>Discredited government warnings—Wolf et al. (2010)</i></p> <p><i>Low trust—Papanikolaou et al. (2012)</i></p> <p><i>Not embedded in disaster planning—Bhandari (2014)</i></p> <p><i>Weak individual relationships with authorities—Aldrich et al. (2020)</i></p>

people showed that weak linking social capital among them fostered vulnerability. Pitas and Ehmer (2020) examined individual and community social capital in the US response to COVID-19. They point out that the response, mainly consisting of maintaining physical distance and staying isolated to avoid becoming infected, actually caused negative effects on bonding, bridging, and linking social capital.

Overview of the role of individual social capital in the studies of the second review

These studies show that individuals cannot always count on their existing social networks to properly respond to a crisis and that the unstable situation individuals face can determine the degree of access to resources. In addition, it is not always obvious that those with rich individual social capital are more prone to respond properly to a crisis. The findings of these studies were organized in Table 1, largely inspired by the study by Lo and Fan (2020). Their table summarizes their literature review of the positive and negative impacts on social capital, according to bonding, bridging, and linking social capital (Lo & Fan, 2020, p. 27). We follow the same division for our studies.

2011 UTØYA TERRORIST ATTACK

In this section, we present the results of our empirical crisis, stemming from the three studies and the July 22 Commission Report. On Friday, July 22, 2011, Norway suffered two terrorist attacks. The first was against the government's main office buildings in Oslo, where a car bomb exploded at 15:25. The second, which is the subject of this paper, occurred at the Labour Party's youth organization summer camp on the small island of Utøya, not far from Oslo, where young people aged between 15 and 25 years gather each year. There, a man wearing what seemed to be a police uniform began shooting at 17:21. The terrorist was arrested approximately 70 min later, after having killed 69 of the 564 persons on Utøya and injured 110, 55 of them seriously (NOU 2012:14, 2012). This crisis was a long-shadow and creeping crisis. It was neither predictable nor influenceable; no one could expect such a brutal attack in a country like Norway.

In the years following this tragic event, academic research delved more deeply into certain emerging topics. For instance, research looked at the postcrisis reactions, in terms of emotional responses (Thoresen et al., 2012) and the development of institutional trust among survivors and the population (Nilsen et al., 2019), and debated the dilemma between security and liberty in Norway (Fimreite et al., 2013). Social capital was also studied, in terms of the prevailing sense of trust and networks of civic engagement (Wollebæk et al., 2012), the impact of using social media among survivors in the period after the attack (Nilsen et al., 2018) and the role of Twitter in managing collective trauma (Eriksson, 2016). In addition, official reports analyzed the public response in its various aspects: the crisis response on and around Utøya during the attack (Kruke, 2012), the emergency communication (DNK The Directorate for Emergency Communication, 2011), the police response (Falkheimer, 2014; POD The Police Directorate, 2012) and the emergency management within the responsibility area of the Norwegian Directorate for Civil Protection (DSB The Directorate for Civil Protection and Emergency Planning, 2012). The 22 July Commission's Report (NOU 2012:14, 2012) shed light on shortcomings in the Norwegian preparedness and emergency system and proposed solutions to avoid similar events in the future. However, a study that attempts to understand the role of young people's social capital in the response is lacking. Despite the limitation we presented in the methods, the three studies, along with the 22 July Commission Report, provided us with a quite reliable picture of the crisis response context, which is presented below.

During the attack, most of the young people on Utøya used social media, especially Facebook and Twitter, to reach their own social networks (Frey, 2018b). Two main (virtual) networks were active: family and friends off the island and friends/new acquaintances on the island. Via social media, they sought to maintain contact with family and friends, to

inform and to understand what was going on. They sought advice and support from those not on the island but also from each other, to survive (VG, 2011a). The young people mainly used virtual means to take critical decisions on how to handle the situation. An interviewee learnt on social media what other youngsters on Utøya were doing and that hiding was a good strategy. Another interviewee, while listening to the shots, learned on social media that there was only one terrorist. Later, he received information on social media that the terrorist had been arrested by the police (Frey, 2018a). In the initial phase of the shooting, one interviewee posted an alert about the shooting on Twitter (Frey, 2018a). At the same time, the Facebook walls of those directly targeted were soon filled with questions such as "What is happening on Utøya? Are you all right?" (Frey, 2018b). Others posted not only expressions of concern and love but also survival strategies and instructions to their friends on Utøya, for example, to hide and to stay together (Frey, 2018b). Families of the young people posted to their wider social networks information about the safety conditions of their children and recommended not to call them (Frey, 2018b). Indeed, the youngsters expressed concerns about being contacted during the attack (Filuková et al., 2016), since this could put them in danger. An interviewee read a post from a person on Utøya who, in an update to calm down worried followers, revealed information about his hiding place (Kaufmann, 2015). This information was also available to the attacker.

The youngsters phoned the police or asked their families to alert the police for them (Frey, 2018a), since they were unable to get through to the local emergency number. Indeed, a few minutes after the shooting commenced, the local police district operations center started to receive phone calls from Utøya about the shooting, with distressing information that several were injured and killed (NOU 2012:14, 2012), while families all across the country started to call the emergency number of almost all Norwegian police districts. Another youngster, after receiving a call from her sister on the island, tweeted about the shooting 12 min before the first online newspaper published the news (NRK, 2011). Descriptions about the situation flooded Facebook and Twitter, not only from the targeted youngsters but also from their families and friends, before the police allowed regular media to inform the wider public about the event. Later, it became clear that the police did not make adequate use of social media and were not in possession of the tragic picture. Flaws in the police information system were later found (Falkheimer, 2014; NOU 2012:14, 2012, p. 12). In a survey conducted by the 22 July Commission, 33.5% of those who answered the questionnaire stated that they tried to call an emergency number while on the island. Of these, approximately 36% stated that they did not receive an answer (NOU 2012:14, 2012). It was only a coincidence that a member of the staff at the Oslo police operations center had a daughter on the island who, 8 min after the beginning of the shooting, called her father. The man handed the phone to a representative of the Oslo police emergency squad. Four minutes later, the first Delta patrol was directed from Oslo toward Utøya. In addition to the police, ministers, state secretaries, and advisers in the Norwegian government began to receive text messages and mobile calls from the young people on Utøya and from their families (NOU 2012:14, 2012). The youngsters conveyed their frightening experiences of being abandoned and left to themselves, due to the difficulties in reaching the police, with highly uncertain chances of surviving the massacre (NOU 2012:14, 2012).

Mobile phones were also perceived as a threat, for two main reasons. First, some youngsters threw away their phones or turned them off, since they feared being traced or that the sound or light from the phone would reveal their hiding places (Filuková et al., 2016; Frey, 2018a, 2018b). Second, the use of social media could also put them at further risk. Focusing on the phone can be dangerous when a terrorist is shooting nearby and you are not constantly aware of his location (Frey, 2018a). Some interviewees also saw a dilemma between communicating on social media and taking

care of each other, since people were scared, and several were wounded and needed first aid and comfort (Frey, 2018a).

An ad hoc network that was activated as a consequence of the shooting consisted of residents and tourists on the mainland, not far from the island. Since some young people swam to reach the mainland, residents, and tourists, putting their own lives at risk, went out by boat and rescued several of them (NOU 2012: 14, 2012). A young man assisted the evacuation of wounded youngsters on one of these boats but refused to leave the island since he felt responsible for his two sisters still there (TV2, 2011). Other young people sought to hide indoors, in a school building, in rest rooms, but also among trees, in grass, in small caves and cliffs, or in the water (NOU 2012:14, 2012). Most of them tried to stay still and calm, although the situation was chaotic, with phones ringing and people screaming (VG, 2011b). Some hid alone, others in small or larger groups. The young people stated afterward that they comforted each other, assisted those in need and generally tried to help each other. However, staying together in groups also made them more vulnerable (NOU 2012:14, 2012).

The youngsters processed a vast amount of information during the response, mainly using social media in a very distressing situation. In general, social media was a very accessible resource for them to channel information from and to their own networks. They were in desperate need of reliable information, but this was not available through family and relatives or through public information systems. Indeed, a critical point from the three studies and the 22 July Commission's Report was the credibility of information that the young received and the extent to which they could verify it. Conflicting views and contradictory information led to speculations (Frey, 2018a), such as the number of attackers (from one to five), that this was a war, that the shooter was actually a police officer, that the police had arrived, and that at a certain point it was safe to come out. An interviewee stated that "Spreading misinformation or rumours... it could be mortal if someone posts that it is safe when it is not" (Frey, 2018a, p. 6). Some young people trusted information about the police coming with fatal consequences (Dagbladet, 2011a; NOU 2012:14, 2012). An interviewee posted information on Facebook during the attack and understood that his social network outside the island did not fully comprehend what was happening on Utøya or the extent of the attack (Frey, 2018a). However, some relevant information gradually started to filter through. One interviewee received information from social media that the terrorist was actually dressed as a policeman (Frey, 2018a). A mother could inform her daughter on the island about this on a radio news bulletin (Dagbladet, 2011b). However, the young did not have other resources to verify information during their response. An interviewee stated that he did not dare to trust the information he was reading on his social media (Frey, 2018a). Thus, in general, it was extremely difficult to have a clear understanding of the situation while the shooting was going on regarding which information on social media might be beneficial and which could lead to fatal consequences, if trusted. Other survivors specified that, although they were struggling with the huge amount of information on social media, they could use some pieces of information for a better understanding of how others on the island were reacting to the shooting (Frey, 2018a). According to an interviewee, it was possible on Twitter to verify the accounts and measure the trustworthiness of a person posting a message (Frey, 2018a). An interviewee with a wider social network, including several other youngsters on Utøya, stated that it was easier for him to make evaluations of the situation, since the information was posted by friends he knew and trusted. However, the youngsters were spread across the island and found themselves in different challenging situations (Frey, 2018b; NOU 2012:14, 2012). Some were hiding indoors, others outdoors. Some were wounded, others swam over to the mainland. Thus, the information provided by one young person could be completely different from that of

his/her friends on other parts of the island. There was no common picture of the event, but several individual experiences were communicated (Frey, 2018a).

DISCUSSION

Since the aim of the paper is to examine both the positive and negative aspects of social capital at microlevel, in this section we discuss the Utøya case in light of the research from the systematic literature reviews and with the guidance of Table 1, according to bonding, bridging, and linking social capital. In the response, to realize its value, social capital is activated through networks, which channel resources (Misra et al., 2017). In the case of Utøya, we posit that the individuals involved in the attack—young people—possessed, in general, strong and significant social capital: they had family and friends (bonding social capital), established ties via the youth organization they belonged to, they gathered together with old friends, and they met new ones (bridging social capital) on the island, since this was a national camp. They had some linking social capital, since this was a political gathering. The shared experience of being on an island discussing political issues shaped a sense of belonging to a certain community, reinforcing inner ties. Suddenly, this social setting changed, their social capital could no longer be used to bring about “normal” needs. As the social setting changed, from a noncrisis to a crisis, so might also the value and role of social capital sought. The young people were looking for support, shelter, and information as main resources.

Bonding social capital

In Table 1, bonding social capital assumes positive connotations, according to Casagrande et al. (2015)—*Strong (family and) friends’ ties*—and Hawkins and Maurer (2010)—*Immediate support provided by family and friends’ ties*. Family and friends’ ties constitute a durable social network through which resources are channeled.

Bonding social capital was the first form of capital the young people activated. The first reaction was to call, communicate with, and inform family and friends about what was going on and ask for help and advice. Social media—mainly Facebook and Twitter—were actively employed. This is not unusual behavior, confirmed by research on whom individuals address first in case of a crisis (Ling et al., 2018; Procopio & Procopio, 2007; Taylor et al., 2012; Zahnow et al., 2019). However, these familiar bonds, which were so relevant in their daily life, could not offer substantial support. Parents and friends were not on the island and were unable to give advice regarding in which direction to escape or where to hide. Only in one case was a mother able to provide her daughter with very crucial information that the killer was dressed like a policeman, while, in another, it was only by chance that the father of a participant was a member of the police.

In their studies, Elliott et al. (2010), Haney (2018), Horney et al. (2010), Pitas and Ehmer (2020), and Ritchie and Gill (2007) conclude that broken and disrupted family and friends’ ties negatively influence the response. The case of Utøya brings to light a new aspect: family and friend's ties were not broken or disrupted. On the contrary, thanks to social media, the young on Utøya turned to their families and friends to gather information on how to survive (see Ling et al., 2018; Zahnow et al., 2019). However, it was the resource they were longing for—information and knowledge—that was lacking or contradictory. This contributed to diminishing the value of these ties. We label this new aspect: *deficiencies of information and knowledge from family and friends’ ties*.

Bonding social capital was also strong among the young people on the island. This was a political camp: it is highly probable that some youngsters were already friends before arriving on Utøya. Others made new acquaintances, which were cemented by the experience of being together and discussing shared political issues. During the response, several youngsters supported and assisted each other in seeking refuge and in managing to survive. On the other hand, Dyson's (2006) findings shed light on a negative aspect of bonding social capital, *exclusive, inward-looking information, and resource sharing*. Dyson (2006) looked at social capital through the racial and socio-economic ties of individuals belonging to the New Orleans African American minority community. He argued that bonding (and bridging) social capital within homogenous communities can actually hamper a proper response. To some extent, the young on Utøya constituted a community with certain characteristics (most were Norwegian citizens with the same political orientation). Contradictory and fatal information was shared among the youngsters, who had different perceptions about the attack, since they were scattered across the island. This also overlaps with Wolf et al.'s (2010) *strengthening wrong narratives*. Once more, the resource channeled through networks—information—was crucial to determining the behavior of the young.

In Brouwer and Nhasengo's (2006) study about individual social capital during the response to the floods in Mabalane District, Mozambique, in 2000, one of the findings points out that possessing a wider web of family and relatives' ties can make the difference. To some extent, this category also applies to the young people on Utøya. The breadth of their own social network—already in place before the crisis—determined the quantity of information received during the attack. This worked in both positive and negative terms. On one side, those with a large social network were able to receive more information, than those with smaller social networks, and take decisions based on the thick flow of information. Without such a network beforehand, it was difficult to pick up information in the midst of the crisis. On the other side, this could also work to foster vulnerability, since individuals were unable to unpick the right information due to the huge flow of messages via social media. We propose, then, a new category, which can help or hamper the response: *thickness of (virtual) social networks for gathering information*.

Bridging social capital

Bridging social capital is determined by the establishment of external ties, which can assist and provide resources. The most evident example of bridging social capital derives from individuals living or being on holiday close to the island. They spontaneously intervened with their boats to help especially those who swam and sought to reach safer places. This bridging social capital was crucial for the rescue of several youngsters. It confirms Haney's (2018) *establishment of new and useful ties* and Hawkins and Maurer's (2010) *immediate support provided by neighbors*.

Linking social capital

Linking social capital was the weakest form of social capital. A few minutes after the shooting began, several youngsters called the local police district operations center. Distressed families did the same. This bond with the authorities was, however, severely tested, since those calling received no response from the emergency numbers. This could be interpreted as a negative aspect of linking social capital. The police were unable to provide the required assistance during the response and resulted in the

youngsters being more vulnerable since they had to rely on their own networks. The police themselves seemed to lack crucial information that was flowing through Twitter, a means of communication not actively used by the police. On Utøya, the young were left more to themselves to make their own decisions for survival (NOU 2012:114, 2012).

However, if we look at the negative aspects of linking social capital listed in Table 1, it is not immediately clear which of those explanatory items fits best in the case of Utøya. For instance, linking social capital was not the *only resource to rely on* (Casagrande et al., 2015). Luckily, the young had networks and resources via their bonding and, to some extent, bridging social capital. It was not *low trust* (Papanikolaou et al., 2012) or *discredited* (Wolf et al., 2010). After all, several young people and their families called the police a few minutes after the shooting. On the contrary, the youngsters had great faith in the police, so much faith that the terrorist—dressed seemingly in a police uniform—was trusted, with fatal consequences. They even called authorities in the government. It was more due to the *authority's weak information system*—scant use of social media—that the police acted more slowly than expected.

A final reflection concerns the use of mobile phones during the attack. For some young people, their mobile phones were crucial for reaching out to their own networks, both real and virtual. Their phones provided the only source of information and communication with the outside world. For others, they were considered harmful, since the terrorist could trace them, or the device's sound or light could reveal their hiding place. The fear of being tracked by the terrorist made them choose not to receive information from their social networks. Furthermore, using mobile phones could hinder their ability to help and support those in need. For those choosing not to use their devices, this meant cutting off families and friends from their networks, so their bonding social capital can be viewed along the lines of *broken and disrupted family and friends' ties*, as described by Elliott et al. (2010), Haney (2018), Horney et al. (2010), Pitas and Ehmer (2020), and Ritchie and Gill (2007). These youngsters could rely only on themselves, especially if left alone, or, ultimately, on those they were together with.

CONCLUSION

When a crisis unfolds, important values, such as life and health, are at stake, as well as the ways individuals can count on their own networks to mobilize resources, be informed about the situation, and take vital decisions. As such, individual social capital is a crucial element in managing a crisis and mitigating its effects, as well as in worsening them. It needs to be treated as a source of resilience but also of vulnerability, as the findings of the 2011 Utøya terrorist attack showed. Crises, and, in particular fast developing and unexpected ones, influence individual social capital. Personal social networks may change: an individual with strong bonding ties in “normal” times may be unable to access them; bridging networks become suddenly prominent for assistance, while linking social capital may not provide the resources needed to respond.

The impact of crises on social capital remains a complex and challenging research endeavor. Through this paper, we aim to advance the research, with a more critical view on individual social capital, since the scientific insights gained into the role of individual social capital can have practical implications for improving crisis and disaster management. Its double-edged aspects need to be constantly explored through a more precise choice of variables that unpack what individual social capital is. First, to better understand individual social capital in response, we need to know more about its mechanisms and characteristics before the crisis unfolds. There is a need to collect more data on precrisis social capital, to

understand how it is impacted by a crisis, how it changes, which components are useful, and which could be detrimental to the affected individual. More nuanced empirical studies of individual social capital could also provide new insights for understanding vulnerability and resilience from an intersectional perspective (Kuran et al., 2020). Second, not personal networks per se, but personal networks' *diversity* should be investigated. This diversity can be described in terms of real/virtual or real/mediated by social media; thin/thick; narrow/broad; unresponsive/responsive; the kind of resources that this diversity brings to the individual (new knowledge, different information, or material support); and the extent to which this diversity and these resources can foster vulnerability. Third, we argue that the role of social media in shaping individual social capital is an underexplored topic, as well as the extent to which the characteristics of a man-made or natural crisis—creeping, predictable, influenceable, or with fast or slow development patterns—affect individuals' engagement with their networks. Here, comparative and quantitative research can offer reliable conclusions. The expansion of the scientific knowledge along these lines could provide crisis and disaster managers with a deeper understanding of which strengths and weaknesses individual social capital carries and how weaknesses can be reduced in the response.

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ENDNOTE

¹Also called the emergency management cycle or disaster management cycle with its phases: preparedness, prevention, response, and recovery.

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