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Risk, Trust and Emergent Groups: COVID-19 Mutual Aid Networks

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RISK, TRUST AND EMERGENT GROUPS:

COVID-19 MUTUAL AID NETWORKS

By

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Bachelor of Arts, Gonzaga University, Spokane, WA, 2014

Thesis

presented in partial fulfillment of the requirements
for the degree of

Master of Arts
Sociology, Inequality and Social Justice

The University of Montana
Missoula, MT

August 2021

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ABSTRACT

Cutuli, Allison, M.A., August 2021   Sociology

Risk, Trust and Emergent Groups: COVID-19 Mutual Aid Networks

Chairperson: Dr. Kathy J. Kuipers

  Throughout the world, thousands of local mutual aid networks (MANs) have emerged in response to the COVID-19 pandemic. Mutual aid involves exchanging resources, connecting people to services and building community. During the COVID-19 pandemic, mutual aid includes sharing COVID-19 information, social support, food and emergency funds in informal local networks. To learn more about these community networks and explore the perspectives and experiences of MAN participants around the United States, I conducted survey research. There are 101 individuals from 16 MANs in 11 states included in the survey sample.
  There are two parts to this research. The first explores descriptive characteristics of MAN participants and their network involvement. The survey results describe demographic characteristics of MAN participant demographic characteristics, types of MAN involvement and motivations for joining MANs. The second part of this research analyzes social trust, institutional trust and COVID-19 risk perception. Survey findings suggest that MAN participants have high social trust, high institutional trust and low COVID-19 risk perception when compared to overall U.S. population survey data (Dryhurst et al. 2020; NORC1 N.d.). Results from this research provide insight on local community networks that develop in the midst of crises and contribute to a growing body of COVID-19 mutual aid research.

Keywords: mutual aid, emergent groups, risk perception, social trust, institutional trust

ACKNOWLEDGEMENTS

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1. INTRODUCTION

As of September 16, 2021, there have been over 4.6 million COVID-19 deaths and over 200 million confirmed cases worldwide and counting every day (WHO 2021). Within the United States, there have been over 600 thousand deaths and over 41 million confirmed cases (WHO 2021). Vaccinations are currently widely accessible around the U.S. and those who are 12 years and older are eligible for vaccinations (CDC 2021). Although vaccinations are available, the current Delta variant is highly contagious, and COVID-19 case and hospitalization rates are increasing (CDC 2021).

This ongoing global COVID-19 pandemic has dismantled families, communities, organizations and nations. Disasters, including natural disasters, economic downturns, violent conflict and public health crises such as the COVID-19 pandemic elicit community-level responses. Before, during and after disasters, community groups form to meet individual and community needs. During the COVID-19 pandemic, over 5,000 mutual aid networks (MANs) have propagated throughout the world to support at-risk populations and allocate necessary resources for survival and wellbeing (Covid-19 Mutual Aid UK N.d.). MANs provide services and resources including important COVID-19 information, social support, food, supplies, or emergency funds. Emergent groups, as exemplified by MANs, help fill the gap when institutions are unable to provide urgent or effective support to all civilians.

Sociological research on disasters recognizes risk perception and trust as essential elements that influence disaster response. During the current COVID-19 pandemic, having a higher risk perception of the virus is associated with more preventative behaviors including washing hands, social distancing and wearing masks (Dryhurst et al. 2020; Yildirim, Gecer, and Akgul 2020; Yildirim and Guler 2020; Zhong et al. 2020). Similarly, trust is associated with risk

perceptions of contracting COVID-19 and preventative behaviors including wearing a mask, washing hands, physical distancing and staying indoors (Song and Yoo 2020). Learning about these variables in the context of emergent groups help us better understand COVID-19 disaster response. Existing COVID-19 risk perception and trust research examines nations or regions. Due to the pervasiveness of MANs throughout the United States and world, my research aims to understand MAN participants and involvement and the relationships between COVID-19 risk perception, trust and MAN participation.

Although MANs existed before the COVID-19 pandemic, thousands of these networks have emerged worldwide within the past year to minimize damage from the pandemic. MAN volunteers serve as frontline responders in thousands of communities worldwide to help mobilize communities to reduce the spread of the COVID-19 virus and ensure survival. To better understand MAN involvement, this research will include two components. The first component will collect information about MAN participant demographics, MAN activities and motivations for participating. Learning about MAN participants, MAN activities and motivations will help understand who joins MANs and what needs MANs meet during the pandemic. Since we are uncertain how long COVID-19 will continue to spread and what might be the aftermath of this pandemic, emergent groups such as MANs will continue to exist as long as people need support.

In addition to learning about the MAN member demographics, activities and motivations for participating, this research explores MAN involvement, COVID-19 risk perception and trust. These research questions include: How do MAN participants compare with the U.S. population regarding risk perception of COVID-19, institutional trust and social trust? What is the relationship between risk perception, social and institutional trust and motivations for MAN

participation? These guiding questions will explore how emergent group members perceive the

risk of COVID-19 transmission and experience social and institutional trust.

2. LITERATURE REVIEW

Disasters and COVID-19

In the past several decades, disasters have been an increasingly studied phenomenon in sociological research. Disasters may include actual or perceived threats of death, injury or resource depletion, social structure failures, collective events that disrupt daily activity or community-wide damage or loss (Aldrich 2012; Majchrzak, Jarvenpaa, and Hollingshead 2007). Quarantelli (1998) explained that social systems are forced to collaborate during crises and may face extreme organizational changes. These institutional changes may include losing autonomy and shifting performance standards (Quarantelli 1998). Despite the growing research on disasters, existing disaster research on epidemics is scarce.

The current COVID-19 pandemic is a current example of a crisis. Existing sociological research on the COVID-19 pandemic includes health sociology (Connell 2020; Matthewman and Huppatz 2020), the influence of the pandemic on rising racism against Asians (Kwok 2020), lack of disability accessibility as a result of the pandemic (Goggin and Ellis 2020), the role of gender and masculinity in national pandemic responses (Thomson 2020) and rural and urban communities' socioeconomic susceptibility and resiliency to COVID-19 (Peters 2020). Despite this wide-ranging research on COVID-19, there is minimal sociological research on community responses to COVID-19, especially from emergent groups.

Emergent Groups

In the midst of disasters, people tend to unite in informal emergent networks to meet personal and collective needs. Emergent groups are "...private citizens who work together in pursuit of collective goals relevant to actual or potential disasters but whose organization has not yet become institutionalized" (Stallings and Quarantelli 1985:94). Emergent response groups

develop to meet disaster needs as a response to perceived institutional failures (Murphy 2007; Spade 2020; Twigg and Mosel 2017) or shifting environments, resources and information (Majchrzak et al. 2007). Characteristics of emergent groups may include heightened urgency and interdependence; fluid membership and leadership; diverse perspectives and changing attitudes, tasks, roles and expertise (Majchrzak et al. 2007). Stallings and Quarantelli (1985) shared that members are likely to be white, women, between 30 and 40 years old and from middle-class backgrounds. However, participant characteristics differ depending on group's goals, needs and location (Stallings and Quarantelli 1985).

There are several types of emergent organizations based on the community needs and time of group formation. Stallings and Quarantelli (1985) define three main forms of emergent groups during emergency response. The first type of emergent response group is damage assessment groups, which may include search-and-rescue efforts (Stallings and Quarantelli 1985). These groups are usually citizen-based, form to ensure that everyone is safe, and report disaster damage to public officials (Stallings and Quarantelli 1985). Secondly, operations groups may include citizens and public officials to establish disaster roles and tasks (Stallings and Quarantelli 1985). Lastly, Stallings and Quarantelli (1985) explain coordinating committees which may include taking on responsibility for local problems and planning for the future. Emerging groups' structure and activity depend on the community needs and may change over time.

Emergent groups emerge to address many different crises. Some groups may develop before a disaster to design hurricane evacuation routes or establish a flooding warning system (Stallings and Quarantelli 1985). Some emergent groups may develop after a disaster, like helping a community rebuild after an earthquake or tornado or confronting local officials about a

structural failure to prevent disasters (Stallings and Quarantelli 1985). After the 2005 Hurricane Katrina, informal neighborhood networks emerged throughout New Orleans (Rodriguez, Trainor and Quarantelli 2016). One neighborhood group acquired boats, food and water and retrieved survivors (Rodriguez et al. 2016). Examples of emergent groups include search-and-rescue groups after the 2015 Kathmandu earthquake and groups offering basic necessities including food, water, shelter and medicine after the 2004 Indian Ocean tsunami and 2005 Mumbai flooding (Twigg and Mosel 2017). Many emergent groups gather to prevent, survive or adapt to disasters.

Mutual Aid Networks (MANs)

The concept of mutual aid has existed for the entirety of human history in the collective effort for survival. The term "mutual aid" is attributed to Russian anarchist philosopher Peter Kropotkin's 1902 publication, "Mutual Aid: A Factor of Evolution." Kropotkin asserts that humans' inclination towards mutual aid has remained consistent throughout the world and "in the long run the practice of solidarity proves much more advantageous to the species than the development of individuals endowed with predatory inclinations" (Kropotkin 1902). Kropotkin's argument is that solidarity, through mutual aid, is more beneficial than competitive individualism as promoted by social Darwinism. Mutual aid has existed for many years to especially help vulnerable populations survive and "may take the form of support groups, cooperatives, unions, solidarity economies or networks of support" (Izlar 2019:352). These various networks may help provide social and emotional support, connect people to critical resources and services and build community resiliency in various communities around the world.

Existing mutual aid research is largely focused on health and social support. Studies on mutual aid groups focused on addiction, cancer, chronic illness, diabetes, mental health or weight

loss (Chambers et al. 2017; Kyrouz, Humphers, and Loomis 2002). Other research on MANs highlights their role with social support especially for caregivers, sexual-abuse survivors, suicidal adolescents, single parents, the elderly or bereaved (Gitterman and Shulman 2005; Kyrouz et al. 2002; Tse, Bagley, and Hoi-Wah 1994). These health and social-support MANs demonstrate opportunities to collectively cope and bond through shared health and life experiences and goals.

Another realm within published MAN research is labor groups. Avalos (2019) observed the role of migrants' social network ties within the San Diego construction industry. These work groups, also known as "cuadrillas," provided strategies to organize and divide labor and build solidarity among Mexican migrant workers in San Diego (Avalos 2019). Ford and Honan (2019) studied mutual aid labor networks within Indonesian online transportation apps. While these networks helped advocate for better working conditions for drivers through unionizing, there was minimal impact on industry improvements (Ford and Honan 2019). Lastly, Vasquez-Leon (2009) shared how Hispanic farmers in southeastern Arizona rely on mutual aid to adapt to climate change. Resources to address drought are inaccessible for Hispanic farmworkers, who have been historically marginalized (Vasquez-Leon 2009). Vulnerable populations can better adapt to climate variability by collectively forming social networks to build resiliency (Vasquez-Leon 2009). These articles demonstrate how MANs are utilized in labor and industry groups.

Mutual Aid During the COVID-19 Pandemic

Recent examples of emergent groups are COVID-19 mutual aid networks (MANs), which form to collectively adapt to and survive the COVID-19 pandemic (Covid-19 Mutual Aid UK N.d.; U.S.A. Covid Mutual Aid 2021). The pandemic has catalyzed the start of MANs in over 5,000 communities worldwide (Covid-19 Mutual Aid UK N.d.). These emergent groups are

run by volunteers and partner with local institutions to ensure people have access to basic necessities, information, resources and emotional comfort (Covid-19 Mutual Aid UK N.d.; U.S.A. Covid Mutual Aid 2021). During this pandemic, MAN participants may address needs by running errands for vulnerable people who are isolating, offer social and emotional support to community members, collaborate with local food banks or other local institutions, and have a common emergency fund to assist vulnerable community members. Additionally, network participants help spread pertinent and local information on COVID-19 vaccinations, testing, restrictions, health protocols to reduce the spread of the virus and share resources for those facing unemployment or eviction. People can get connected with these networks and share information through a variety of platforms including social media groups or pages, local or national MAN websites or various community hubs. Some MANs were formed to support specific groups like the elderly, BIPOC (Black, Indigenous, or People of Color), queer and transgender people, small-business owners or the undocumented.

A growing number of studies are documenting MANs during the pandemic. Existing research about MANs explains how aid is shared and which populations are prioritized. One main theme in mutual aid research is social organization. MANs are described as horizontally led and bottom-up informal networks that promote a space of collaboration and "solidarity, rather than charity" where all participants (also known as members) have skills and knowledge to contribute (Chevee 2021; Spade 2020; U.S.A. Covid Mutual Aid 2021). During the COVID-19 pandemic with strict lockdowns and social distancing, mutual aid occurs both in person and online. In-person mutual aid may involve social organization into quarantine pods or households (Kouri-Towe 2020). Online, mutual aid can take place on social networking websites where strangers can post needs such as asking for emergency funds, or post offers such as distributing

free homemade masks (Kouri-Towe 2020). MAN websites and social media platforms serve as a centralized source that provides important information by local, state or national governments, non-governmental organizations, health departments and individuals (Kouri-Towe 2020). Mutual aid support during the COVID-19 pandemic may help particular populations such as refugees (Travlou 2020), detainees (Travlou 2020), the sick or homebound (Chevee 2021), the houseless (Ruffin 2021), ethnic minorities (Ruffin 2021), people with addictions (Bunting et al. 2021; Krentzman 2021), the elderly (Jun and Lance 2020), public housing residents (Jun and Lance 2020) and other vulnerable people (Dominguez et al. 2020; Jun and Lance 2020, Spade 2020).

Research on MANs also describes the variety of resources offered to communities. Many communities distribute basic necessities such as food, masks and hygiene supplies (Bell 2021; Jun and Lance 2020; Ruffin 2021; Spade 2020; Travlou 2020). For instance, Kropotkin-19 Mutual Aid in Athens, Greece, provided legal services for refugees facing eviction and distributed weekly food deliveries and essentials to detainees in immigration services (Travlou 2020). Online social support groups have emerged for people with addictions, especially during a time of isolation and adjustment to online remote platforms (Bunting et al. 2021; Krentzman 2021). These online MANs include Reddit support groups for people with opioid addictions, and resources to help Alcoholics Anonymous clients adjust to online video conferencing platforms (Bunting et al. 2021; Krentzman 2021). Mutual Aid NYC (Ruffin 2021) has a bail fund, organizes immigration advocacy and offers homeless support. Mutual aid in Washtenaw County, Michigan, has offered support to Black Lives Matter (BLM) protestors by distributing masks, water, and hygiene supplies (Bell 2021). After the failure of two local dams in Washtenaw County, Michigan and subsequent dams, the local MAN sewed and distributed masks from HEPA vacuum bags (Bell 2021). The DC Mutual Aid Network was formed by BLM to combat

police violence against African Americans and has expanded to address "food insecurity, grassroots domestic violence support, work against gentrification [and] support for public housing…" (Jun and Lance 2020). Services offered through the DC MAN include making grocery runs for seniors and others with high medical risk, offering food for at-risk children out of school, fundraising to provide laptops for students learning at home and coordinating driving efforts for essential needs and medical care (Jun and Lance 2020). In north London, England, over 100 mutual aid groups formed in the eight north London boroughs (Chevee 2021). These ward-specific MANs organized seed swaps and created online workshops to educate people on issues like racism and domestic violence (Chevee 2021).

Collective political action and advocacy are essential parts of mutual aid research during the COVID-19 pandemic (Bell 2021; Chevee 2021; Dominguez et al. 2020; Spade 2020). Bell (2021) discussed mutual aid efforts to organize for social transformation for racial justice, especially considering the racial disparity of COVID-19 contraction and death rates of African Americans. Spade (2020) emphasized the inherent political nature of mutual aid, "people take responsibility for caring for one another and changing political conditions, not just through symbolic acts or putting pressure on their representatives in government but by actually building new social relations that are more survivable" (1). Psychologists in the American Psychological Association (APA) encourage the APA to support MANs, especially those doing work in marginalized communities, and expand policymaking efforts to increase health equity in the U.S. (Dominguez et al. 2020). Mutual aid emergent groups have propagated throughout the world to support vulnerable populations, allocate necessary resources for survival and wellbeing and fill the gap when institutions are unable to provide urgent or effective support to everyone (Covid-19 Mutual Aid UK N.d.; Dominguez et al. 2020; Spade 2020; U.S.A. Covid Mutual Aid 2021).

Given the thousands of MANs forming around the world within the past year, studying

these networks can help us better understand how emergent groups meet needs during the

COVID-19 pandemic. The first part of this research will explore the questions:

1. Who is joining mutual aid networks?
2. What does mutual aid network participation look like?
3. Why do people join mutual aid networks?

Risk Perception

A key element in how people prevent and respond to disasters is risk perception. Existing

research on disaster risk perception includes topics such as natural disasters, nuclear energy

(Renn and Swaton 1984) and climate change. Often, risk perception relates to disaster

consequences including death, injury, illness, and damage to infrastructures and the natural

environment (Lindell 2013). Risk perception theories attribute gender, race and ethnicity and

other demographic characteristics as risk perception influences (Gierlach, Belsher, and Beutler

2010; Wildavsky and Dake 1990).

Risk perception studies on gender show that women have higher risk perception levels

than men regarding climate change (Saleh, Smith, and Liu 2012) and flood and landslide (Ho et

al. 2008) impacts. Regarding race and ethnicity, Chakraborty et al. (2017) found that white men

have lower air pollution risk perceptions compared to white women and non-white men and

women. Gender, race and ethnicity have been found to affect perception of various

environmental risks.

Research also supports that cultural and political ideologies have a major influence on

risk perceptions (Wildavsky and Dake 1990). Gierlach et al. (2010) found significant differences

between Japanese, North American and Argentinian risk perceptions of natural disasters and

terrorist attacks. In this study, the American sample had the strongest optimistic bias with the

lowest reported disaster vulnerability among all the countries (Gierlach et al. 2010). In relation to political orientation, Saleh et al. (2012) studied Americans' climate change risk perception in rural Nevada. Saleh et al. (2012) found that being conservative is associated with a low risk perception of climate change. These studies demonstrate that cultural and political factors influence risk perception. Risk perception of actual or potential disasters is a major influence on how people behave during a crisis or work towards preventing disasters.

Risk Perception of COVID-19

COVID-19 pandemic research notes international and gender differences in COVID-19 risk perception. On the international level, Dryhurst et al. (2020) found that despite cultural differences among European, American and Asian countries, high risk perception of COVID-19 is uniform. This study also found that people with personal knowledge and experience of the virus, prosocial worldviews and trust in scientists and medical professionals have higher risk perceptions (Dryhurst et al. 2020). Additionally, people who trust their government and political leaders have lower risk perceptions (Dryhurst et al. 2020; Shao and Hao 2020). Shao and Hao (2020) also found that people who identify as conservative have lower risk perception of COVID-19 than those who identify as liberal or moderate. This study highlighted the crucial importance of knowing risk perceptions. Dryhurst et al. (2020) observed that individuals with higher risk perception had a positive correlation with virus prevention behaviors including washing hands, wearing a mask and social distancing across all ten countries (Dryhurst et al. 2020). Internationally, risk perceptions influence behavior in preventing the spread of the COVID-19 virus.

Developing risk perception research of COVID-19 sheds light on gender differences. Being female is associated with higher COVID-19 risk perception (Bwire 2020; Dryhurst et al.

2020; Yildirim et al. 2020; Yildirim and Guler 2020). One study among Turkish adults found that females not only expressed higher risk perception of COVID-19, but also more frequent engagement in preventative behaviors than males (Yildirim et al. 2020; Yildirim and Guler 2020). Zhong et al. (2020) and Bwire (2020) both note that men were more likely to engage in risky behavior during the COVID-19 pandemic including going into crowded locations. Although women are more likely to have higher risk perceptions and preventative behaviors, men are more likely to contract and die from the COVID-19 virus (Bwire 2020). These studies indicate the international pattern of gender differences of COVID-19 risk perception and preventative behaviors to slow the virus spread.

Since risk perception of the COVID-19 virus is associated with virus prevention behaviors, better understanding risk perception can help reduce the spread of the virus. In relation to MAN involvement, participants may have contracted COVID-19, or know of someone who has contracted or died from COVID-19. MAN efforts include sharing important medical information (Kouri-Towe 2020) and helping vulnerable populations who are greatly affected by the virus (Chevee 2021; Dominguez et al. 2020; Jun and Lance 2020; Ruffin 2021; Spade 2020). Thus, I hypothesize:

> H1: MAN participants' COVID-19 risk perception is higher than that of the overall U.S. population ((based on Dryhurst et al. (2020)).
>
> H2: The greater a person's COVID-19 risk perception, the more likely they will join a MAN for COVID-19 information.

Trust

Trust is a major topic in sociological research, including in relation to disaster response and risk perceptions. Some researchers define trust as being more behavior- or decision-oriented,

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and some define trust as more belief- or knowledge-based (Cook 2001). One form of trust is social trust (also known as generalized trust), which may pertain to people or society in general (Cook 2001; Hardin 2001). Although social trust has many definitions, the trustworthiness, cooperativeness, or helpfulness of others are primary foci (Hardin 2001). Lastly, institutional trust (also known as political or government trust) may refer to trust in organizations, politicians or other officials (Ervasti, Kouvo and Venetoklis 2018). These are a few examples of the myriad of trust measurements within social science research.

Social Trust

Social trust is one form of trust often associated with social risk-taking amidst uncertainty. Heimer (2001) emphasizes that social trust is dynamic and may change based on relational risks and uncertainty. Social uncertainty is noted as an essential element of social trust (Heimer 2001; Yamagishi, Cook and Watabe 1998; Yamagishi and Yamagishi 1994). While navigating this social uncertainty, Yamagishi (2001) found that having higher social trust can promote people looking for new opportunities and growing a "relation-expanding role" (140). In other words, those with less trust in society are more likely to interact in smaller social circles and take on fewer opportunities (Yamagashi 2001). Social trust is often explored in disaster research due to social uncertainty of disasters.

Within the United States, there are noteworthy social trust trends and factors. Yamagishi and Yamagishi (1994) found that social trust rates in the United States are higher than they are in Japan. Within the United States, one caveat is that for higher trust to flourish rather than be exploited, social institutions including the justice system need to be fair and just (Yamagishi and Yamagishi 1994). Additionally, Putnam (2000) highlights that social trust has decreased in the United States since the 1960s. In the sixties, about 50% of Americans believed that "most people

can be trusted" versus about 35% of Americans in 2006 (NORC2 N.d; Putnam 2000). These are a few measures of social trust within the United States.

Within crises, social trust can affect how people respond, collaborate and cope. Among social trust literature, Lee (2019) found that experiencing disasters can increase social trust. One example of this is after the 2010 Pakistan floods, Akbar and Aldrich (2018) found that social trust increased as a result of the floods. Toya and Skidmore (2014) also explored the relationship between disasters and social trust. The results indicate that social trust increases in countries that experience major disaster events including storms (Toya and Skidmore 2014). Disaster research indicates that experiencing disasters can enhance social trust.

Similar to risk perception, there is a relationship between social trust and preventative behaviors to slow the spread of COVID-19. In South Korea, trust in society increases risk management (Kye and Hwang 2020) and improves people's ability to engage in protective activities (Song and Yoo 2020). Song and Yoo (2020) emphasized, "social trust must be fostered through active response activities against the virus by all members of society in order to improve the public's risk response ability and activities." These active response activities include wearing a mask, washing hands, physical distancing and staying indoors. Both studies demonstrate that social trust is connected to effective COVID-19 transmission-prevention efforts. In other words, the greater social trust people have, the more people will act to prevent COVID-19 transmission and minimize risks. Fostering social trust is essential to minimize the spread of COVID-19.

In reference to involvement in MANs during the COVID-19 pandemic, I hypothesize that trust in people, or social trust, is prevalent among mutual aid participants. In other words, the "relation-expansion" nature of social trust is demonstrated in MAN participation. Due to the risks of seeking social support, those who do participate in MANs are presumed to have social

trust. In addition to social support, I expect to find high levels of trust of MAN participants due to a common shared bond, goals and values. Thus, I hypothesize that:

H3: MAN participants' social trust is higher than that of the overall U.S. population ((based on 2018 General Social Survey data (NORC1 N.d.)).

H4: The greater a person's social trust, the more likely they will join a MAN for social support.

Institutional Trust

While social trust relates to trust in society, institutional trust explores trust in governments, political leaders or organizations. Institutional trust may include religious organizations, governments, schools and other organizations. Institutional trust may focus on certain groups (e.g. politicians), or organizations (e.g. the United States federal government). In addition to a decline of social trust within the United States within the past half century, researchers have noted a decline in institutional trust (Putnam 2000). In the 1960s, approximately three in four people agreed with sentiments including being able to "trust the government in Washington to do what is right all or most of the time" (Putnam 2000). Thirty years later, about three in four people did not trust that the U.S. government would do what is right most of the time (Putnam 2000). These statistics demonstrate the decline of institutional trust in the U.S. government within the past fifty years.

In relation to how disasters influence institutional trust, research suggests that disasters decrease institutional trust. Lee (2019) noted that after experiencing disasters, people have lower institutional trust in national and local governments, especially due to inequitable distribution of resources. An example of this is the 2010 Pakistan floods, where there was a decrease in institutional trust (Akbar and Aldrich 2018). Williams, Valero and Kim (2018) found that people

trusted family, friends and social media connections for relevant emergency information more than federal agencies, NGOs or local emergency officials. The decrease in institutional trust has implications for disaster response, communications and rebuilding.

Similar to social trust, there is a relationship between COVID-19 risk perception and institutional trust. During the COVID-19 pandemic, national and regional differences exist in relation to trust of government, scientists and medical professionals (Dryhurst et al. 2020; Samadipour, Ghardashi and Aghaei 2020). In Iran, less than one-third of Iranians believed that governmental COVID-19 hazard warnings were true, and 80% believed the government's negligence influenced COVID-19 spread (Samadipour et al. 2020). In Egypt and Nigeria, 77% of participants believed their country's COVID-19 response plan was below average and 38.6% believed the government took sufficient measures to protect citizens (Hager et al. 2020). Within Spain, higher government trust is associated with lower COVID-19 risk perception (Dryhurst et al. 2020). In South Korea, higher trust in the government has been found to be associated with both higher (Dryhurst 2020) and lower (Song and Yoo 2020) risk perception. Song and Yoo (2020) note that government trust is supported by social trust and social support. For the United States, trust in medical professionals was a significant predictor to COVID-19 risk perception (Dryhurst et al. 2020). Essentially, Dryhurst et al. (2020) found that worldwide, risk perception of the COVID-19 virus "is socially negotiated based on people's experiences, values, and trust in institutions." Risk perception of COVID-19, which is influenced by institutional trust and legitimacy has important implications for containing the COVID-19 virus.

While various organizations may be included in institutional trust, trust in the U.S. federal government will be the main focus of this institutional trust research. The United States government plays a major role in mitigating COVID-19 transmission rates and the virus's

devastating effects on individuals and communities. Due to emergent group research, emergent

groups such as MANs develop in response to perceived institutional failures (Dominguez et al.

2020; Murphy 2007; Spade 2020; Twigg and Mosel 2017). Thus, I hypothesize that:

> H5: MAN participants' institutional trust in the U.S. government is lower than that of the
>
> overall U.S. population ((based on Dryhurst et al. (2020)).

> H6: The lower a person's institutional trust in the U.S. government, the more likely they
>
> will join a MAN for basic necessities.

3. METHODS

This research study involved distributing a survey instrument among U.S. MANs listed on the COVID-19 Mutual Aid USA website (2020) (http://usacovidmutualaid.org/). I used a survey to understand demographic characteristics of MAN participants, MAN participation activities and motivations for joining MANs. Additionally, the survey collected data on MAN participants' COVID-19 risk perception, social trust and institutional trust. This section provides an overview about the survey sample, the survey instrument, survey distribution and the data collection experience.

Sample

A convenience sample of MANs were selected from throughout the United States. The selected networks listed on the U.S. COVID Mutual Aid website were started in response to the COVID-19 pandemic. The U.S. COVID Mutual Aid website had hyperlinks to local MAN Facebook pages and groups. Networks with a high number of group members and frequent Facebook posts were selected due to high engagement levels and anticipated high levels of survey respondents. Selecting networks with high engagement and number of participants was anticipated to lead to a high number of responses and ability to draw conclusions from the data. After selecting these MANs, I solicited responses from participants in these MANs.

Majchrzak et al. (2007) discussed that membership and leadership in emergent groups is fluid, so participation may shift. This shifting participation also relates to MANs since people can participate as frequently or rarely as desired. The number of Facebook members in these MAN Facebook groups is one indicator of the number of MAN participants, but mutual aid is also accessible offline and may not be fully represented by Facebook usage.

I sent a Facebook message to organizers from over forty MANs around the U.S. to see if they were willing to share the survey with their network participants. Among these forty MANs, I had personal connections with six of these networks, including Missoula, MT, Flathead Valley/Kalispell, MT, Detroit, MI, Tompkins County, NY, Whatcom County, WA and South King County/Seattle Eastside, WA. I participate in Missoula, MT's MAN. I have previously lived in, or have personal connections with Flathead Valley/Kalispell, MT, Whatcom County, WA and South King County/Seattle Eastside, WA. I also have close friends and a former volunteer supervisor in Detroit, MI and Tompkins County, NY networks. These close friends and former supervisor did not distribute the links, and I am unsure if they completed the survey.

In total, organizers from sixteen MANs responded within the timeframe of survey distribution (Table 3.1). Correspondence with MAN organizers is described below in the Survey Distribution section.

Table 3.1: Selected COVID-19 Mutual Aid Networks

Location	Mutual Aid Network Name
1. Madison, WI	COVID19 Mutual Aid Madison
2. Tompkins County, NY (Ithaca)	Mutual Aid Tompkins (County)
3. Asheville, NC	Asheville Survival Program
4. Missoula, MT	Missoula Community Organizing Action
5. Flathead Valley/Kalispell, MT	Flathead Mutual Aid - Coronavirus
6. Flagstaff/Kinlani, AZ	Kinlani (Flagstaff) Mutual Aid
7. Lynn, MA	Lynn, MA Mutual Aid and Disaster Relief Group
8. St. Louis, MO	MapleGOOD
9. Troy, NY	Troy Mutual Aid Society 2020
10. Rochester, NY	Rochester Mutual Aid Network
11. Whatcom County, WA (Bellingham)	Whatcom Mutual Aid
12. Detroit, MI	Metro Detroit COVID-19 Support
13. South King County/Seattle Eastside, WA	South King County and Eastside COVID/Coronavirus Mutual Aid Group
14. Kansas City, MO	Kansas City Mutual Aid
15. Grand Junction, CO	Mutual Aid Partners (CO)
16. State of Maine	Maine Coronavirus Community Assistance

The sample shown in Table 3.1 included four states from the West (AZ, CO, MT, WA), three states from the Midwest (MI, MO, WI), three states from the Northeast (ME, MA, NY) and one state from the South (NC). Of this sample, ten networks were from cities, three were from regional areas (Flathead Valley/Kalispell, South King County/Seattle Eastside and Kinlani/Flagstaff, AZ), two were from counties (Tompkins County, NY and Whatcom County, WA), and one was from the state of Maine. Although I sampled MANs, individual MAN participants from these networks were the units of analysis of this research.

Survey

I utilized Qualtrics, an online survey platform to distribute an internet survey to MAN participants from the sixteen networks. An online survey was the best method to capture a large number of MAN participants in various locations around the U.S in a short time period (Dillman, Smyth and Christian 2014). There were two main parts of the survey. The first portion of the survey asked questions about participants' demographic characteristics, MAN involvement and motivations for joining. The demographic characteristic questions included birth year, gender, race and ethnicity. The MAN involvement questions inquired when people joined a MAN and the types of resources offered and received. The possible motivations for joining a MAN included the level of importance of seeking social support, necessities and COVID-19 information for joining a network.

The second main part of the survey included questions about COVID-19 risk perception, social trust and institutional trust. This study utilizes questions from the Dryhurst et al. (2020) COVID-19 survey and compares the results of the U.S. sample. Research from Dryhurst et al. (2020) was utilized since it was the first known worldwide survey on the COVID-19 pandemic, has a representative quota sample of the U.S. and utilizes reliable scales to analyze data.

Respondents were recruited through Prolific.co, an online survey research platform, and surveyed in March 2020. The Dryhurst et al. (2020) U.S. sample data included 702 respondents and was stratified by age, gender and ethnicity.

The risk perception measurements used the Dryhurst et al. (2020) COVID-19 survey questions (Table 4.4). Dryhurst et al. (2020) included six questions to create a COVID-19 risk perception scale (Table 4.4). The risk perception scale has a 0.82 reliability among the U.S. population using Cronbach's alpha (Dryhurst et al. 2020). Generally, a high Cronbach's alpha above 0.70 (up to 1) suggests that the six items have high internal consistency, or that the items are closely related, and measure the same concept, so they are related, and the scale is reliable (Tavakol and Dennick 2011).

The social trust measure was compared with the 2018 General Social Survey (GSS) social trust results (Table 4.7). The GSS started in 1972 and collects annual data about what Americans "think and feel about such issues such as …. intergroup relations, and confidence in institutions" (NORC2 N.d.). The GSS social trust data is compiled from a random selection of U.S. households and is a nationally representative survey. The most recent social trust measure was from 2018 and included 1,487 respondents (NORC2 N.d.). I compared the results of this survey with the most recent GSS 2018 data (Methods). The second social trust measure used Yamagishi and Yamagishi's (1994) five questions as a scale (Table 4.8). Yamagishi and Yamagishi's (1994) social trust scale has a Cronbach's alpha of 0.78, an acceptable reliability for the U.S. population.

Lastly, institutional trust was measured using the Dryhurst et al. (2020) U.S. government trust scale, which includes three questions (Table 4.10). This institutional trust score has a .81 Cronbach's alpha reliability across the U.S. population.

Survey Distribution

After receiving Institutional Review Board (IRB) approval, I sent a Facebook message to COVID-19 MAN organizers to ask them to share the survey with their COVID-19 MAN participants. The message offered an introduction to the research, a survey link and information to share with the COVID-19 MAN participants (Appendix A). The information included an introduction about my role as a graduate student researcher and MAN participant and an invitation to participate in my thesis research survey on mutual aid during the COVID-19 pandemic. The participants were also informed that they had the option to enter in a gift card raffle (for one of three $50 Visa eGift cards) and receive the survey results. The organizers posted the message and survey to the network's Facebook page or group. Some organizers instead encouraged me to post the survey, which I did when asked.

There were three separate rounds of surveys sent to MANs. The first round of survey distribution was on Tuesday, April 13, 2021, when the survey was posted to Madison, WI; Tompkins County, NY; Asheville, NC; and Missoula, MT MAN Facebook groups. After I received IRB approval to send the survey to additional MANs, the survey was posted to a second round of MANs during the weekend of April 24-25, 2021. These mutual aid Facebook groups were Flathead Valley/Kalispell, MT; Flagstaff/Kinlani, AZ; Lynn, MA; St. Louis, MO; Troy, NY; Rochester, NY; Whatcom County, WA; Detroit, MI; South King County/Seattle Eastside, WA; Kansas City, MO; and the state of Maine MAN. The third round included the Grand Junction, CO MAN Facebook page, where the survey was sent out on Saturday, May 1, 2021. One week after these surveys were posted, I asked the organizers if they could post the survey again in case anyone did not complete the survey the first time around. Some networks allowed

this, some would ask me to repost, and some would "like" the initial survey post to encourage more engagement and avoid duplicate posts.

After clicking the link to the online survey, participants read a set of instructions and details about the survey. The instructions mentioned survey participation is voluntary, responses are confidential and that questions can be skipped. The instructions also mentioned that this survey follows the ethical standards of the American Sociological Association and was passed by the University of Montana's IRB. The requirements for the respondents were that they are 18 years of age or older and have participated in a U.S.-based MAN. This participation includes, but is not limited to, offering or receiving emergency funds, supplies or COVID-19 information.

Data Collection

To prevent respondents from completing the survey more than once, I selected the "prevent ballot stuffing" option on Qualtrics, which does not allow respondents to retake the survey on the same browser. While checking response rates on Qualtrics after the first round of survey distribution, I noticed that there were a significantly higher number of completed responses than expected, with over 200 respondents. After downloading the data, I noticed that many respondents mentioned that the state their MAN was in was outside my sample. I also noticed that there were many duplicate Internet Protocol (IP) addresses.

The open-text entry response also highlighted some incoherent responses to the statement "Please share anything else about yourself, your local mutual aid network, or mutual aid networks in general" (Appendix C). These incoherent responses were illogical, irrelevant or duplicates. An example of an illogical response was, "Latest results on new crowns." Examples of irrelevant responses included, "The singer produced a new song" and "Looking for a dog, about a meter high yellow, with a nameplate around its neck." Some responses were duplicates,

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for instance, 14 separate survey respondents wrote, "The Internet can help us get information faster." These incoherent open-entry text responses were very different from coherent text responses such as, "We have been very blessed by our Maine state Corona FB page. People have helped us with 2 emergency vet bills, heat and information that has been extremely helpful." After examining duplicate IP addresses, many responses from outside the survey sample, and incoherent text responses, I concluded that automated bots had infiltrated my survey.

Internet robots, or 'bots' are automated computer software programs that imitate human activities (Kaspersky N.d.). Some bots, known as 'malware' bots can interrupt, compromise and break into secure websites (Kaspersky N.d.). Since some of these MAN Facebook groups and pages were accessible to the public, all posts in the groups were available to be read by anyone on the internet, whether a group member or not. These malware bots likely scanned the internet for posts mentioning 'gift card' or 'raffle' and completed the survey in pursuit of a gift card.

After this realization that bots were completing my survey, I called Qualtrics customer support for assistance. I followed their advice and added the Qualtrics bot protection "reCAPTCHA," which involves clicking on a box to confirm you are not a robot before starting the survey. After adding the reCAPTCHA, I added some survey logic, so those who failed to accurately complete this reCAPTCHA would be sent directly to the end of the survey. Even though I added these two survey bot protections after the first round of survey distributions, they failed to prevent bots from completing the survey from my second round of survey distributions. After realizing the survey logic and reCAPTCHA were insufficient at blocking bots from my second round, I contacted Qualtrics customer support again. They recommended adding password protection to the survey. I followed their advice and added password protection for the follow-up posts for the second round of survey distribution and provided the password to the

MANs. When I later checked the Qualtrics platform page, I noticed that the bots were still able to get through the password protection. I took the survey down on May 3, 2021 after I exhausted all recommended bot protection available to the University of Montana Qualtrics platform. After three weeks of data collection, I sent the survey to sixteen MANs, collected over 1,100 responses and spent hours on the phone with Qualtrics customer support.

To salvage the data and remove the bots' false information, I consulted with several survey experts. After downloading the compiled Qualtrics data to Excel and thorough data analysis, my advisor and I decided on criteria for labeling the respondents as 'bots' or 'humans'. There were four main criteria for respondents to be labeled as a 'bot'. Firstly, the response was labeled as a 'bot' if it had a duplicate IP address. Secondly, if the respondent declared that their MAN was from a state outside of the survey sample, or from a state before the survey had been distributed in that state. Thirdly, if the text entries were illogical, irrelevant and/or a duplicate. Lastly, if the respondent took the survey outside of the cities, counties, or the state of Maine included in the sample. Qualtrics data includes the latitude and longitude where the surveys were taken, and I entered these map coordinates on Google Maps to determine the location.

My advisor and I also had four criteria for labeling respondents as 'humans'. Firstly, respondents were labeled as a 'human' if they did not have a duplicate IP address. Secondly, respondents declared that their MAN was in one of the eleven states included in the sample. Thirdly, respondents completed the survey from one of the cities or counties in the sample or the state of Maine. Lastly, if respondents wrote text responses, the text was coherent, logical and relevant. There were some respondents accepted although they completed the survey from outside of the city, county, or the state of their MAN. These respondents were accepted because they had coherent text responses, for example, referenced their specific MAN. Some respondents

may have been part of a MAN and responded from out of town or state, but without coherent text entries, there is insufficient information to label as 'human'. For those entries where it was impossible to determine if they were humans or bots, they were labeled as 'bots'. I had a total of 1,175 responses, a cleaned dataset with 101 'human' responses and the remaining 1,074 'bot' responses were not included in data analysis.

There is a dearth of social science research on how to manage and clean survey datasets that bots have infiltrated. My advisor and I realized there were risks with cleaning the dataset. One risk was excluding people from the dataset, which could have skewed results. This would have particularly applied to people who completed the survey outside of the city or region where the network was based or did not provide text responses to help confirm they were a human. Another risk was failing to remove all the bots from the dataset. This risk also meant the results were compromised. Having a structured and consistent process for cleaning the dataset greatly helped reduce the likelihood of having bots in the final dataset.

Data Analysis

Following the completion of surveys, I exported the Qualtrics survey data to SPSS (Statistical Package for the Social Sciences) for analysis. For the first part of the study, I used frequency distributions to understand descriptive data about who joins MANs, how people participate, and what is important in seeking out MANs. For the second part of the study, I compared results to the Dryhurst et al. (2020) descriptive statistics on risk perception and institutional trust, 2018 GSS data on social trust (NORC1 N.d.) and Yamagishi and Yamagishi (1994) social trust scale.

Within the second part of the study with my six hypotheses, I used two separate statistical analyses. Firstly, I used independent samples t-tests (H1, H5) and a chi-square test (H3) to

compare MAN participants' COVID-19 risk perception, social trust and institutional trust with the overall U.S. population. This testing was done with the assumption that these MAN participants were not part of the sample of the overall U.S. population from Dryhurst et al. (2020) and 2018 GSS data, making these mutually exclusive groups. Independent samples t-tests and a chi-square test were used to compare the means of the MAN participants and the U.S. population. An independent samples t-test was most suitable for H1 and H5 to test the mean difference between two mutually exclusive groups (Nardi 2006). A chi-square test was most suitable for H3 since the variable of social trust is a nominal level of measurement. Secondly, I used the Spearman correlation coefficient to measure the strength and direction of different variables (H2, H4, H6). A Spearman correlation was most suitable for H2, H4 and H6 since it can use ordinal, interval or ratio levels of measurement (Laerd Statistics N.d.). The first pair of variables is COVID-19 risk perception and the importance of COVID-19 information in joining a MAN. The second pair of variables is social trust and the importance of social support in joining a MAN. The third pair of variables is institutional trust and the importance of basic necessities in joining a MAN. Because MANs were not representative of the U.S. population and convenience sampling is not random, the results cannot be generalizable to all MAN participants in the U.S. The analysis and results section will explore the data in more depth.

4. RESULTS

There were a total of 101 responses used in the dataset. Originally, there were 1,175 survey responses, but 1,074 respondents were determined to be automated "bots," which were eliminated from the dataset. The results section has two parts. The first part is the descriptive section, which describes data about MAN participant demographics and network involvement. The second part of the section elucidates the statistical analysis results of the six hypotheses.

Descriptive

By analyzing the descriptive statistics, I addressed the questions, "Who joins mutual aid networks?" (Table 4.1), "What does mutual aid network participation look like?" (Table 4.2) and "Why do people join a mutual aid network?" (Table 4.3). This first section of the results answered these questions.

Table 4.1 Demographic Characteristics of Mutual Aid Network Participants (N=101)

Characteristic		Frequency	Percent (%)
State			
	Arizona	2	2.0
	Colorado	4	4.0
	Maine	9	8.9
	Massachusetts	3	3.0
	Michigan	2	2.0
	Missouri	7	6.9
	Montana	14	13.9
	New York	33	32.7
	North Carolina	6	5.9
	Washington	10	9.9
	Wisconsin	7	6.9
Gender			
	Cisgender man (Assigned male at birth and identify as a man)	13	12.9
	Cisgender woman (Assigned female at birth and identify as a woman)	78	77.2
	I do not identify with a gender binary	4	4.0
	My identity is not listed above	2	2.0
	Prefer not to say	3	3.0
Age			
	18-24	3	3.0
	25-34	23	22.8
	35-44	21	20.8
	45-54	23	22.8
	55-64	19	18.8
	65+	11	10.9

Race			
	White or Caucasian	89	88.1
	Black or African American	3	3.0
	American Indian, Native American or Native Alaskan	3	3.0
	Multiracial or Biracial	5	5.0
	Another identity not listed here	1	1.0
	Prefer not to say	2	2.0
Ethnicity			
	Non-Hispanic or Non-Latinx	84	83.2
	Hispanic or Latinx	7	6.9
	Another ethnicity not listed here	1	1.0
	Decline to answer	3	3.0
	Unknown ethnicity	3	3.0
Education			
	Less than a high school diploma	1	1.0
	High school degree or equivalent (e.g. GED)	4	4.0
	Associate degree	8	7.9
	Vocational training	1	1.0
	Some college, no degree	11	10.9
	Bachelor's degree	37	36.6
	Master's degree	26	25.7
	Doctorate degree	8	7.9
	Professional degree	5	5.0
Disability			
	Yes	22	21.8
	No	76	75.2
	Unsure	3	3.0
Employment Status			
	Unemployed and currently looking for work	6	5.9
	Unemployed and not currently looking for work	3	3.0
	Student	3	3.0
	Retired	11	10.9
	Homemaker	3	3.0
	Self-employed	8	7.9
	Unable to work	14	13.9
Household # (including self)			
	1	24	23.8
	2	42	41.6
	3	17	16.8
	4	13	12.9
	5	4	4.0
	6	1	1.0
COVID-19 Vaccination status (as of survey completion between April 13-May 3, 2021)	I am fully vaccinated	61	60.4
	I have received my first vaccine and plan to receive my second (if applicable)	20	19.8
	I am planning on getting vaccinated	10	9.9
	I am not planning on getting vaccinated	6	5.9
	Other	4	4.0
Marital Status			
	Single (Never married)	29	28.7
	Married or in a domestic partnership	51	50.5
	Separated	2	2.0
	Divorced	15	14.9
	Widowed	4	4.0

Political Views (Spectrum of 1=Left wing/liberal to 7=Right wing/conservative)			
	1	36	35.6
	2	28	27.7
	3	16	15.8
	4	15	14.9
	5	3	3.0
	6	2	2.0
	7	0	0.0
Religion			
	Buddhist	3	3.0
	Catholic	11	10.9
	Christian	19	18.8
	Jewish	3	3.0
	No religion	49	48.5
	Other	9	8.9
	Prefer not to say	5	5.0
Household Income/Year ($)			
	<10,000	0	0
	10,000-24,999	15	14.9
	25,000-49,999	20	19.8
	50,000-74,999	21	20.8
	75,000-99,999	5	5.0
	100,000+	29	28.7

Table 4.1 contains demographic information about MAN participants including location, age, race, gender and household income. Some options included in the survey were not selected and are thus omitted from this table. Regarding the location, this sample included respondents from eleven states. Four states are in the West (Arizona, Colorado, Montana, Washington), three states are in the Midwest (Michigan, Missouri, Wisconsin), three states are in the Northeast (Maine, Massachusetts, New York) and one state is in the South (North Carolina). Approximately one-third (32.7%) of the sample is from the state of New York, with three MANs from New York included in the sample.

The vast majority of respondents are cisgender women (77.2%). Also, the majority of respondents are white (88.1%) and non-Hispanic/non-Latinx (83.2%). There is a wide age distribution of respondents, with 22.8% of the respondents between 25-34 years old, 20.8% of the respondents between 35-44 years old, 22.8% of respondents between 45-54 years old and

18.8% of respondents between 55-64 years old. The remainder is either between the ages of 18-25 or over 65 years old. Lastly, nearly 22% of respondents are disabled (21.8%).

Most respondents live in households with less than four people, 41.6% indicated they live in a two-person household, 23.8% of respondents indicated they live alone. Half of respondents (50.5%) are married or in a domestic partnership, and nearly 30% are single (28.7%). Respondents are highly educated, since 70.2% have received a Bachelor's, Master's or Doctorate degree. There is a range of annual household income, 14.9% make between $10,000-24,999, 19.8% make between $25,000-49,999, 20.8% make $50,000-74,999, only 5% make between $75,000-99,999, but 28.7% make over $100,000/year. In reference to employment status, approximately 50% work full time (48.5%), and 12.9% work part time. 10.9% are retired, 7.9% are self-employed, 13.9% are unable to work and 8.9% are unemployed. Only 3% are students and another 3% are homemakers. Additionally, 21.8% of respondents are disabled.

The respondents identify as more liberal, with a mean of 2.25 on a scale of 1-7, 1 being more liberal and 7 being more conservative. The vast majority of respondents, 79.1%, placed themselves between 1-3 on this 7-point scale, indicating a strong progressive, left-leaning sample. At the time of taking the survey (April-May 2021), 60.4% of respondents were fully vaccinated, and an additional 19.8% of respondents have received their first vaccine and plan to receive their second. About 10% of respondents indicated they were planning on getting vaccinated (9.9%) and 5.9% indicated they were not planning on getting vaccinated. About half of respondents do not identify with a religion (48.5%), 29.7% of respondents identify as Christian/Catholic, 3% identify as Buddhist, 3% identify as Jewish and 8.9% indicated they identify with another religion.

Table 4.2: Mutual Aid Network Involvement (N=101)

Characteristic		Frequency	Percent (%)
Introduction to MAN			
	Advertisement	2	2.0
	Family member or friend	6	5.9
	Neighbor, co-worker or acquaintance	5	5.0
	Organization	2	2.0
	Other	7	6.9
	Social media	73	72.3
	Website	6	5.9
Date Joined MAN			
	Before March 1, 2020	8	7.9
	Between March 1, 2020-June 30, 2020	70	69.3
	Between July 1-October 31, 2020	11	10.9
	Between November 1, 2020-February 28, 2021	9	8.9
	After February 28, 2021	3	3.0
Frequency of MAN Interactions			
	1-5 times/month	52	51.5
	6-10 times/month	17	16.8
	More than 11 times/month	20	19.8
	None	6	5.9
	Other	6	5.9
Trust in MAN Members			
	Strongly Agree	21	20.8
	Agree	49	48.5
	Neutral	28	27.7
	Disagree	2	2.0
	Strongly Disagree	1	1.0
Resources Offered to MAN			
	Emergency Funds	51	50.5
	Food	56	55.4
	Household Supplies	47	46.5
	Shelter	3	3.0
	Transportation	20	19.8
	Healthcare/Medications Access	7	6.9
	Elder, Child or Petcare	4	4.0
	COVID-19 Info	33	32.7
	Emotional or Social Support	49	48.5
	Activism/Advocacy	32	31.7
	Employment Info	18	17.8
	Local Resources	37	36.6

Resources Received from MAN			
	Emergency Funds	5	5.0
	Food	13	12.9
	Household Supplies	8	7.9
	Transportation	2	2.0
	Healthcare/Medications Access	1	1.0
	Elder, Child or Petcare	3	3.0
	COVID-19 Info	38	37.6
	Emotional or Social Support	33	32.7
	Activism/Advocacy	27	26.7
	Employment Info	5	5.0
	Local Resources	29	28.7

Table 4.2 includes how MAN participants learned about their network, when they joined their network, the frequency of interactions per month and which resources they have received and offered to/from other MAN participants. The vast majority of MAN participants learned about the network from social media (72.3%). Similarly, the majority of network participants joined their network at the beginning of the U.S. lockdown, between March 1, 2020 - June 30, 2020 (69.3%). Half of respondents (51.5%) indicated they participate 1-5 times/month in network-related interactions, 16.8% participate 6-10 times/month and 19.8% participate more than 11 times/month.

Regarding resources offered to other MAN participants, approximately half of respondents indicated they offer emergency funds (50.5%), food (55.4%), household supplies (46.5%), emotional or social support (48.5%). Other commonly offered resources are local COVID-19 information (32.7%), activism/advocacy (31.7%), and local resource information (36.6%). Regarding resources received in MANs, the most common resources received include local COVID-19 information (37.6%), emotional or social support (32.7%), activism/advocacy (26.7%), and local resource information (28.7%).

Table 4.3: Importance of Resources in Joining Mutual Aid Network (N=101)

Characteristic	Very Unimportant % (n)	Somewhat Unimportant % (n)	Neither Important nor Unimportant % (n)	Somewhat Important % (n)	Very Important % (n)
Social Support (e.g. emotional support, friendship)	7.9 (8)	9.9 (10)	18.8 (19)	31.7 (32)	29.7 (30)
Basic Necessities (e.g. emergency funds, food, shelter)	12.9 (13)	2.0 (2)	16.8 (17)	17.8 (18)	45.5 (46)
COVID-19 and/or Local Resource Information (e.g. vaccination information, unemployment information)	5 (5)	8.9 (9)	18.8 (19)	27.7 (28)	33.7 (34)

This table indicates the importance of social support, basic necessities and local COVID-19/resource information in the decision to join a MAN. People may seek to join a MAN to share or receive these various resources, or both, but this survey did not specify. Nearly half of respondents (45.5%) indicated that basic necessities were very important in seeking a MAN, whereas 33.7% of respondents indicated that local COVID-19/resource information was very important, and 29.7% of respondents indicated that social support was very important. The data from this table is also discussed in the next results section since it is correlated with hypotheses 2, 4 and 6.

Hypotheses

This second part of the results section describes the findings regarding the statistical tests of the six hypotheses. Statistical significance is measured at the $p < 0.05$ level.

H1: MAN participants' COVID-19 risk perception is higher than the overall U.S. population.

This first hypothesis used the risk perception scale of Dryhurst et al. (2020) and included six Likert-type questions. The following questions were used to create the scale:

Table 4.4: COVID-19 Risk Perception Scale (Dryhurst et al. 2020)

Question	Scale
How worried are you personally about the following issues at present? - Catching the Coronavirus/COVID-19	7-point Likert scale, 1=Not at all worried, 7=Very worried
How likely do you think it is that you will be directly and personally affected by the following in the next 6 months? - Catching the coronavirus/COVID-19	7-point Likert scale, 1=Not at all likely, 7=Very likely
How likely do you think it is that your friends and family in the country you are currently living in will be directly affected by the following in the next 6 months? - Catching the coronavirus/COVID-19	7-point Likert scale, 1=Not at all likely, 7=Very likely
How much do you agree or disagree with the following statements? - The coronavirus/COVID-19 will NOT affect very many people in the country I'm currently living in	Reverse coded, 5-point Likert scale, 1=Strongly disagree, 5=Strongly agree
How much do you agree or disagree with the following statements? - I will probably get sick with the coronavirus/COVID-19	5-point Likert scale, 1=Strongly disagree, 5=Strongly agree
How much do you agree or disagree with the following statements? - Getting sick with the coronavirus/COVID-19 can be serious	5-point Likert scale, 1=Strongly disagree, 5=Strongly agree

For analysis purposes, the 5-point Likert-type type questions have been converted to a 7-point scale of 1=1, 2=2.5, 3=4, 4=5.5, 5=7, following the example of Dryhurst et al. (2020). This hypothesis was tested through an independent samples t-test to compare means between MAN participants and the overall U.S. population. The MAN group has a mean of 3.93, median of 3.92 and mode of 3.42. The U.S. sample has a mean of 4.35, median of 4.42 and mode of 4.5. The standard deviation between both samples is similar, with .82 for the MAN sample and .905 for the U.S. sample. The similar standard deviations between the two groups indicate that both samples have similar variability in their respective distributions.

Table 4.5: A Comparison of COVID-19 Risk Perception Between Mutual Aid Network
Members and the U.S. Population

Group Statistics

Risk Perception	Dataset	N	Mean	Std. Deviation	Std. Error Mean
	MAN	101	3.9299	.82122	.08171
	U.S.	702	4.3451	.90527	.03417

Independent Samples T-Test

		Levene's Test for Equality of Variances					t-test for Equality of Means		95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Risk Perception	Equal Variances Assumed	.803	.371	-4.358	801	.000	-.41522	.09527	-.60222	-.22821
	Equal Variances Not Assumed			-4.688	137.424	.000	-.41522	.08857	-.59035	-.24008

The results of the independent samples t-test do not support the first hypothesis. The

mean COVID-19 risk perception level of MAN participants is 3.93, and the mean COVID-19

risk perception level of U.S. respondents is 4.35. The mean is on a scale between 1 and 7, since

the COVID-19 risk perception questions are on a 7-point Likert-type scale. Thus, the MAN

participants have a lower COVID-19 risk perception level than the overall U.S. population. The

p-value is less than .05, which indicates that the difference between the U.S and MAN sample is

statistically significant, however, in the opposite direction than expected.

**H2: The greater a person's COVID-19 risk perception, the more likely they will join a
MAN for COVID-19 information.**

This second hypothesis was tested through a Spearman correlation coefficient to measure

the results of two ordinal scale variables. This hypothesis sought to identify the relationship

between risk perception of COVID-19 and the level of importance of local COVID-19

information (COVID-19 and/or local resource information, e.g. vaccination information,

unemployment information, etc.) in joining a MAN. The first variable was COVID-19 risk

perception and used the risk perception scale of Dryhurst et al. (2020) from the first hypothesis.

The second variable was the level of importance of COVID-19 information in joining a MAN.

The question related to joining a MAN was, "How important is COVID-19 information in your

decision to join your MAN?" This question was measured using a 5-point Likert-type scale from

1=Very Important to 5=Very Unimportant. On a 5-point scale, the mean was 3.87, median was 4

and mode was 5. To analyze this hypothesis, a Spearman correlation coefficient was used since

the measure for importance of information is at the ordinal level of measurement. While this data

used ordinal level of data, the assumption that the relationship between the two variables is

monotonic, which means that as the level of one variable increases, the level of the other variable

increases, or, as one variable decreases, the other variable also decreases.

Table 4.6: Correlation between COVID-19 Risk Perception and Importance of Local COVID-19
Information in Joining a Mutual Aid Network

			Risk Perception	Local Info
Spearman's rho	**Risk Perception**	Correlation Coefficient	1.0	.179
		Sig. (2-tailed)	.	.082
		N	101	95
	Local Info	Correlation Coefficient	.179	1.0
		Sig. (2-tailed)	.082	.
		N	95	95

The results do not support hypothesis two. The Spearman correlation coefficient was near

statistical significance at .082 but not significant at the 95% confidence interval. The correlation

coefficient was on a scale from 0 to 1.0 (or 0 to -1.0) with 0 being a weak correlation and 1 being

a strong correlation. The strength of the correlation between two variables depends on where the

correlation coefficient lies in this range. The Spearman correlation coefficient was .179 so there

was a positive relationship (since .179>0) that the higher someone's COVID-19 risk perception,

the more likely COVID-19 information is a deciding factor to join a MAN. However, overall,

there was a weak correlation, statistically non-significant between COVID-19 risk perception

and the importance level of local COVID-19 information in joining a MAN.

H3: MAN participants' social trust is higher than that of the overall U.S. population.

The third hypothesis used the U.S. General Social Survey (GSS) social trust

measurement. The question was: "Generally speaking, would you say that most people can be

trusted or that you need to be very careful in dealing with people?" The options were, "Most

people can be trusted," or "Need to be very careful." The most recent GSS data was from 2018,

so the results from this research were compared to 2018 GSS data (NORC1 N.d.). This

hypothesis was tested through a Chi-square test to compare frequency distributions between

MAN members and the overall U.S. population regarding social trust.

Table 4.7: Chi-square Test of Social Trust of Mutual Aid Network Members and the U.S.
Population

	MAN % (n)	U.S. % (n)	X^2	df	P
Most people can be trusted	47 (47)	33 (492)	8.087	1	.004
Need to be very careful	53 (53)	67 (995)			

The results of the Chi-square test support the third hypothesis. When asked, "Generally

speaking, would you say that most people can be trusted or that you need to be very careful in

dealing with people?", 47% of MAN participants indicated, "Most people can be trusted," and

53% indicated, "Need to be very careful." Among the U.S. sample, 492 (33%) people indicated,

"Most people can be trusted", and 995 (67%) indicated, "Need to be very careful." The Chi-

Square test value is 8.087 and asymptotic (two-sided) significance is .004. The probability of

obtaining a Chi-square value of 8.087 by chance with one degree of freedom is less than 4 in

1000. This indicates that there is a statistically significant relationship between the group to

which members belong (MANs or the U.S.) and social trust. Thus, the MAN participants have

higher social trust than the overall U.S. population. The statistically significant difference is what

was expected in the third hypothesis, which predicted that MAN members would have higher

social trust than the U.S. population.

H4: The greater a person's social trust, the more likely they will join a MAN for social support.

   This second hypothesis was tested through a Spearman correlation coefficient to measure

the results of interval-ratio scale variable and one ordinal level variable. This hypothesis sought

to identify the relationship between social trust and the level of importance of social support (e.g.

emotional support, friendship, etc.) in joining a MAN. The first variable was social trust and

used Yamagishi and Yamagishi's (1994) social trust scale, which has a .78 reliability for the U.S.

population. Out of a scale of 1-5, the MAN sample had a mean of 3.6, median of 3.8 and mode

of 3.8. The following five statements make up this social trust scale:

Table 4.8: Social Trust Scale (Yamagishi and Yamagishi 1994)

Statement	Scale
Most people are basically honest	5-point Likert-type scale from 1=Strongly Disagree to 5=Strongly Agree
Most people are trustworthy	5-point Likert-type scale from 1=Strongly Disagree to 5=Strongly Agree
Most people are basically good and kind	5-point Likert-type scale from 1=Strongly Disagree to 5=Strongly Agree
Most people are trustful of others	5-point Likert-type scale from 1=Strongly Disagree to 5=Strongly Agree
Most people will respond in kind when they are trusted by others.	5-point Likert-type scale from 1=Strongly Disagree to 5=Strongly Agree

   The second variable measured in hypothesis four is the level of importance of COVID-19

information in joining a MAN. The question related to joining a MAN is, "How important is

social support in your decision to join your MAN?" This question was measured using a 5-point

Likert-type scale from 1=Very important to 5=Very unimportant. The social trust mean from this

MAN sample was 3.67, the median was 4 and the mode was 4. Regarding social support, the

mean on a 5-point scale was 3.74, the median was 4 and the mode was 4. The Spearman

correlation coefficient was used to analyze this hypothesis since both variables are ordinal levels

of measurement.

Table 4.9: Correlation between Social Trust and Importance of Social Support in Joining a
Mutual Aid Network

			Social Trust	Social Support
Spearman's rho	**Social Trust**	Correlation Coefficient	1	-.009
		Sig. (2-tailed)	.	.928
		N	99	99
	Social Support	Correlation Coefficient	-.009	1
		Sig. (2-tailed)	.928	.
		N	99	101

The results do not support hypothesis four. The p-value is .928, so the results are not near

statistical significance. The Spearman correlation coefficient was -.009 so there was a negative

relationship that the higher someone's social trust, the less likely they indicated that COVID-19

information is important in joining a MAN. However, overall, there was a weak, non-statistically

significant correlation between social trust and the importance level of social support in joining a

MAN.

**H5: MAN participants' institutional trust in the U.S. government is lower than that of the
overall U.S. population.**

This fifth hypothesis used the institutional trust scale of Dryhurst et al. (2020). This scale

has a .81 Cronbach's alpha reliability and includes three questions on Likert-type scales. These

questions are the following:

Table 4.10: Institutional Trust Scale (Dryhurst et al. 2020)

Question	Scale
How much do you trust the country's politicians to deal effectively with the pandemic?	7-point Likert scale, 1=Not at all, 7=Very much
How much do you trust each of the following? - Politicians in the country you are living in	5-point Likert scale, 1=Cannot be trusted at all to 5=Can be trusted a lot
How much do you trust each of the following? - The current government of the country you are living in	5-point Likert scale, 1=Cannot be trusted at all to 5=Can be trusted a lot

For analysis purposes, the 5-point Likert scale questions have been converted to a 7-point scale of 1=1, 2=2.5, 3=4, 4=5.5, 5=7 following the example of Dryhurst et al. (2020). This hypothesis was tested through an independent samples t-test to compare means between MAN members and the overall U.S. population. An independent samples t-test was best used in this case since the dependent variable is an interval-ratio level of measurement. Similar to hypothesis 1, this testing was done with the assumption that these U.S.-based MAN members have not been participants in research conducted by Dryhurst et al. (2020). The mean of the MAN sample was 3.52, the median was 3.7 and mode was 1. The mean of the U.S. sample was 2.88, the median was 2.75 and mode was 1. The standard deviation between both samples is very close, at 1.42 for the MAN sample and 1.34 for the U.S. sample.

Table 4.11: A Comparison of Institutional Trust between Mutual Aid Network Members and the U.S. Population

Group Statistics

Institutional Trust	Dataset	N	Mean	Std. Deviation	Std. Error Mean
	MAN	101	3.5173	1.42489	.14178
	U.S.	702	2.8796	1.33885	.05053

Independent Samples T-Test

		Levene's Test for Equality of Variances					t-test for Equality of Means		95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Institutional Trust	Equal Variances Assumed	.425	.514	4.439	801	.000	.63770	.14366	.35571	.91969
	Equal Variances Not Assumed			4.237	126.726	.000	.63770	.15052	.33984	.93555

The results of the independent samples t-test do not support the fifth hypothesis. The mean is on a scale between 1 and 7 since the institutional trust questions are on a 7-point Likert-type scale. The mean institutional trust of MAN participants is 3.52, and the mean institutional trust of U.S. respondents is 2.88. Thus, the MAN participants have higher institutional trust than the overall U.S. population. The p-value is less than .05, which indicates that there is a statistically significant difference between the means of MAN members and the overall U.S. population in institutional trust. However, the statistically significant difference is not what was expected in the fifth hypothesis, which predicted that MAN members would have lower institutional trust than the U.S. population. Instead, MAN members had a greater degree of institutional trust.

Additional questions were asked on the survey to better understand institutional trust since there was a change in presidential administrations between 2020-2021. Dryhurst et al. (2020) research occurred in March 2020 during the Trump administration, and this research

occurred in April-May 2021 during the Biden administration. The MAN members identified as more politically liberal, having a mean of 2.25 on a 7-point Likert-scale of 1=Very Left wing/liberal, 7=Very right wing/conservative when asked, "Where do you feel your political views lie on a spectrum of left wing (or liberal) to right wing (or conservative)?" Since the MAN members are more liberal, it is assumed they would have more trust in a Democratic presidential administration than a Republican presidential administration. These additional questions from this research were:

1. How much do you trust each of the following? - The current presidential administration (Biden)
2. How much do you trust each of the following? - The previous presidential administration (Trump)

Both questions used a 5-point Likert-type scale of 1=Cannot be trusted at all to 5=Can be trusted a lot, in alignment with the questions from Dryhurst et al's (2020) government trust scales. The results from these two questions showed that trust in Biden has a mean of 4.83, compared to a 1.36 mean for Trump out of a 5-point Likert-type scale. These results support the higher mean of the MAN members' institutional trust from the U.S. population from the independent samples t-test results.

H6: The lower a person's institutional trust in the U.S. government, the more likely they will join a MAN for basic necessities.

This sixth hypothesis was tested using a Spearman correlation coefficient to measure the results of one interval-ratio level variable and one ordinal scale variable. This hypothesis sought to identify the relationship between institutional trust and the level of importance of basic necessities (e.g. emergency funds, food, shelter, etc.) in joining a MAN. The first variable was institutional trust and uses Dryhurst et al. (2020)'s institutional trust scale from the fifth hypothesis. The second variable measured in hypothesis four was the level of importance of

basic necessities in joining a MAN. The question related to joining a MAN was, "How important are basic necessities in your decision to join your MAN?" This question was measured using a 5-point Likert-type scale from 1=Very important to 5=Very Unimportant. The mean was 3.85, the median was 4, and the mode was 5. To analyze this hypothesis, a Spearman correlation coefficient was used since both variables are ordinal levels of measurement.

Table 4.12: Correlation between Institutional Trust and Importance of Basic Necessities in Joining a Mutual Aid Network

			Institutional Trust	Basic Necessities
Spearman's rho	**Institutional Trust**	Correlation Coefficient	1	-.036
		Sig. (2-tailed)	.	.728
		N	101	96
	Basic Necessities	Correlation Coefficient	-.036	1
		Sig. (2-tailed)	.728	.
		N	96	96

The results do not support hypothesis six. The p-value is .728, so the results are not near statistical significance. The Spearman correlation coefficient was -.036 so there is a negative relationship that the lower someone's institutional trust, the more likely they indicated that basic necessities are important in joining a MAN. However, overall there is a weak, statistically non-significant correlation between institutional trust and the importance of basic necessities in joining a MAN.

5. DISCUSSION AND CONCLUSION

This discussion and conclusion section highlights significant points from the research results and offers explanations for why the results may have occurred. The first section examines the descriptive results, which is the data about MAN participant demographics and network involvement. The second section explains whether or not the results support each hypothesis and provide potential reasons. Following the results' analyses, this section expands on limitations of this study, future research opportunities and this study's contribution to sociological research.

Descriptive Results

Regarding demographics, I had two main expectations prior to the research. First, I expected that MAN participants were more likely to identify as (cisgender) women. The results support this first expectation since the vast majority of respondents from this research were cisgender women. Stallings and Quarantelli (1985) literature support these results, since they shared that emergent groups are predominantly made up of women. The other main demographic expectation was that MAN respondents would likely be BIPOC. BIPOC are more at risk of contracting and dying from COVID-19 than white people, and may seek out ways to decrease risk by seeking relevant information, resources, and social support. The results do not support this expectation since the vast majority of respondents in this sample are white and non-Hispanic/non-Latinx. Stallings and Quarantelli (1985) literature supports these results, since they discussed that emergent group participants are generally white, even when there is a significant proportion of minorities in the community.

Among the research findings, age, education, income and political views are notable. There was a wide age distribution, with an approximately equal representation of respondents between 26-64 years old. Stallings and Quarantelli highlighted that emergent group members

tend to be between 30-40 years old, however, this sample had a wider age distribution.

Regarding education, the majority of respondents have received at least a Bachelor's degree. The

high education levels were a surprise since these rates are not representative of the U.S.

population. Similar to age distribution, there was also a wide range of household incomes.

Nearly one-third of respondents have a household income of over $100,000/year, and more than

half of the respondents have a household income of less than $50,000/year. Stallings and

Quarantelli (1985) discussed that emergent group members may come from middle class

backgrounds, however, this sample shows a variety of household incomes. Lastly, respondents

identified as more liberal, with a mean of 2.25 on a scale of 1-7 with 1 being more liberal and 7

being more conservative. Existing mutual and emergent group research does not discuss

education and political backgrounds and are opportunities for future research.

In reference to MAN involvement, half of respondents participate in network-related

interactions less than five times a month, but a fifth of people also participate over ten times a

month. I anticipated that common mutual aid interactions would include sharing or receiving

local COVID-19 information including COVID-19 testing and vaccination information, basic

necessities such as food, shelter, funds and healthcare services, and emotional and social support.

About half of the respondents offered emergency funds, food, household supplies and emotional

support. Several mutual aid studies emphasized the role of these networks as spaces to get

emergency funds and food (Bell 2021; Jun and Lance 2020; Kouri-Towe 2020; Ruffin 2021;

Spade 2020; Travlou 2020). While research on MANs as offering social and emotional support

during the pandemic is limited, mutual aid groups can help offer support to those experiencing

similar life experiences and challenges (Bunting et al. 2021; Gitterman and Shulman 2005;

Kyrouz et al. 2002; Tse et al. 1994). Lastly, respondents said they received COVID-19

information, emotional or social support, activism/advocacy support and local resources from

MANs. These results relate to mutual aid literature, which explains that COVID-19 MANs are

central hubs for people to get local resources and engage in advocacy efforts (Bell 2021; Chevee

2021; Dominguez et al. 2020).

Lastly, I expected that motivations for joining MANs would include getting basic

necessities such as food, shelter, and funds, accessing local resources including COVID-19

information and receiving and offering social support. The results from this research found that

among these three factors of basic necessities, COVID-19 information, and social support, nearly

half of respondents indicated that basic necessities are very important in seeking a MAN. Basic

necessities including food are also highlighted as important in mutual aid involvement during the

COVID-19 pandemic (Bell 2021; Jun and Lance 2020; Kouri-Towe 2020; Ruffin 2021; Spade

2020; Travlou 2020). A little over one-third of respondents indicated that local COVID-

19/resource information was very important in seeking a MAN, and about one-third of

respondents indicated that social support was very important.

Hypotheses Results

The results do not support H1, which stated that MAN participants' COVID-19 risk

perception is higher than the overall U.S. population. The results indicate that MAN participants'

risk perception of COVID-19 is actually lower than that of the Dryhurst et al. (2020) U.S.

sample. In addition to quantitative data, respondents also were able to share about their MAN

experience while taking the survey. One open-ended text survey prompt invited respondents to

expand upon their mutual aid experience, "Please share anything else about yourself, your local

mutual aid network, or mutual aid networks in general" (Appendix C). Some responses provide

further insight into these results. One respondent provided some insight about why they have low

COVID-19 risk perception, "My own responses towards my Covid-19 concerns for myself are low because I am diligent and basically a home body." This respondent's answer about having low concerns about COVID-19 supports the result that MAN participants have lower COVID-19 risk perception than the Dryhurst et al. (2020) U.S. sample.

There are three main explanations for why these results may have occurred. Firstly, activities in MANs during the COVID-19 pandemic involve in-person interactions. While some interactions may take place remotely, like contributing to emergency funds or posting local COVID-19 information in Facebook groups, many interactions occur in person. These in-person interactions include providing transportation, offering childcare, or distributing food and household supplies to others, who may be strangers (Bell 2021; Chevee 2021; Jun and Lance 2020; Ruffin 2021; Travlou 2020). Due to these face-to-face interactions with others outside of one's household, MAN members place themselves at risk for contracting COVID-19. To access people who are quarantining or isolating and need help, some MAN members may have to break quarantine restrictions. Connecting with people in person outside of one's household during the COVID-19 pandemic poses risks and is one main indicator why MAN participants may have lower risk perception than the larger U.S. population.

Secondly, MANs help meet needs during the COVID-19 pandemic by connecting people with a plethora of resources, which may reduce COVID-19 risk perception. These MANs serve as an example of emergent groups which develop in response to disasters (Stallings and Quarantelli 1985). During the COVID-19 pandemic, MANs offer resources including food; emergency funds; shelter; transportation; healthcare access; elder, child or petcare; social support; local COVID-19 and employment information; and collaborative efforts for advocacy and activism (Bell 2021; Chevee 2021; Jun and Lance 2020; Ruffin 2021; Travlou 2020). Since

MANs may help people meet their needs, MAN members may experience a sense of security in surviving the pandemic. This sense of security may reduce COVID-19 risk perception since MANs can help people meet needs, isolate, social distance, or minimize exposure to the larger public.

Thirdly, there is an 11-month time gap between the Dryhurst et al. (2020) survey and this research. The Dryhurst et al. (2020) survey occurred on March 19-21 2020, and this research occurred on April 13-May 3 2021. On March 11, the WHO (World Health Organization) declared COVID-19 a pandemic, and two days later, on March 13, COVID-19 was declared a national emergency in the United States. Since the Dryhurst et al. research (2020) occurred within two weeks after these major international and national announcements, the risk perception of COVID-19 is expected to be high. This research took place over a year after COVID-19 was declared an international pandemic and more information about the virus is more available. Additionally, vaccinations were widely accessible for adults throughout the United States during Spring 2021. Among this sample, 60.4% of the respondents have been fully vaccinated (two doses of Moderna/Pfizer or one dose of Johnson & Johnson COVID-19 vaccines). Nearly 20% of respondents have received their first vaccine dose and plan on receiving their second vaccine dose (19.8%). Since one statement on the risk perception scale is "I will probably get sick with the coronavirus/COVID-19," COVID-19 risk perception may be lower if the majority of respondents have been fully vaccinated. Due to the high rates of vaccinated respondents, it can be expected that risk perception of COVID-19 is low.

The results do not support H2, which stated that the greater a person's COVID-19 risk perception, the more likely they will join a MAN for COVID-19 information. One potential explanation is that people may be already aware of local COVID-19 information and are seeking

other forms of assistance through MANs. In reference to COVID-19 risk perception, one

respondent discussed their involvement with mutual aid, "I'm a public health nurse. Given the

reluctance of most MAN members to follow science, it's been a frustrating group to follow, but I

still did in case there were resources I could provide." MANs offer a platform to both learn and

share relevant resources and important medical information.

The results support H3, which stated that MAN participants' social trust is higher than

that of the overall U.S. population. There are two major explanations for why the results support

the third hypothesis. Firstly, mutual aid involves connecting with community members, who are

likely to be strangers. Yamagishi (2001) discussed how those with higher social trust may seek a

"relation-expanding role" through engaging in opportunities to develop new relationships (140).

During the COVID-19 pandemic, these relation-expanding experiences may be primarily virtual,

such as donating to emergency funds, or sharing local COVID-19 information, or more direct

such as sharing food, household supplies or other basic necessities. Those who are involved with

mutual aid during the COVID-19 pandemic are connected to a new and emergent social network.

Since many MANs offer social support, those who seek out MANs may have higher social trust

(Gitterman and Shulman 2005; Izlar 2019; Kyrouz et al. 2002; Tse et al. 1994). Responses from

the open-ended text survey question accentuates the experience of a community, relationships

and connection through MANs. One respondent shared, "Mutual aid for me, is a continuation of

the small-town mentality that I grew with… Mutual aid networks have just moved from the

kitchens and lawns of our small towns to the internet. To me, it emphasizes that in a way we are

all neighbors, we are all connected." This respondent remarks how during this COVID-19

pandemic, this sense of kinship with neighbors can even take place online during a pandemic.

Another respondent had a similar remark, "The Asheville mutual aid groups have been so

accessible through social media. It provides an extra sense of community in a time with so much less human interaction... [I] was so glad to have a platform to know that she [a currently employed former classmate] needed help, and for the first time since pre pandemic [I] was in a place to help out a bit." These MANs provide an outlet to connect or reconnect with others, offer opportunities to develop relationships and share support.

The second reason for why these results support the third hypothesis is due to the time gap between the 2018 GSS data and 2021 results during the COVID-19 pandemic. Lee (2019) explained that experiencing disasters can increase social trust. Having a shared experience, goals or values amidst a disaster can enhance social trust. The COVID-19 pandemic may have increased social trust in the United States, which would explain the statistically significant difference in social trust between the 2018 GSS social trust data and among the MAN members.

In the open-ended text response, one person discussed their responses on the social trust questions, "As for my neutral responses to people's trust & distrust. Everyone is different… I personally barely trust anyone, but growing up in North Philly will do that to a person… I like to believe most people are good and want to be good, but the wheel of life grinds at us and look at the state of the world today. I fear for nature and humanity's lack of care." This respondent's statements provide some further insight into neutral responses to survey questions about social trust. Personal experiences have shaped this respondent's social trust. While social trust is measured by one question in this hypothesis, this respondent's answer emphasizes the complexity of social trust.

The results do not support H4, which stated that the greater a person's social trust, the more likely they will join a MAN for social support. Similar to hypothesis two, there are many factors that influence the decision to join a MAN, not just social support. While there is a weak

correlation between these two variables, nearly half of survey respondents (48.5%) indicated that they offer social support in MANs and 32.7% indicated that they receive social support in MANs. Survey respondents described the presence of trust, care and generosity in these MANs. One respondent shared, "I like being involved in a group that cares about people and will lend their time, effort, and privilege without trying to 'save' folks." Another respondent wrote, "Mutual aid is based on trust and recognizing the humanity and our neighbors. Once you see someone's humanity it's much easier to see their needs is [sic] valuable." Someone else expressed, "the emotional support that comes with knowing the community has your back is immense." These respondents described a sense of solidarity with other neighbors and a sense of care for others. Lastly, a mutual aid participant described their experience with their network, "Imperfect but much better than nothing. I get irritated with some of the bickering but overall it's very encouraging to see people's generosity." While participants' experiences with mutual aid looks different, social support is a common thread among mutual aid members, even if it's not related to trust.

The results do not support H5, which stated that MAN participants' institutional trust in the U.S. government is lower than that of the overall U.S. population. There are two possible explanations for this result. The first, similar to H1, the 11-month time gap between the Dryhurst et al. (2020) survey and this research is a significant factor. During this 11-month gap between March 2020 and April-May 2021, there was an election with a change of politicians and presidential administrations from the Trump to Biden administration. Although the survey questions were identical, the Dryhurst et al. (2020) data and this research corresponded to two different political landscapes.

The second explanation aligns with the first. The survey respondents identified as more liberal, with a mean of 2.25 on a scale of 1-7, 1 being more liberal and 7 being more conservative. Since the respondents have a higher institutional trust than the Dryhurst et al. (2020) U.S. sample, it supports the explanation that there is a higher institutional trust in the current government/politicians since the Biden administration is more liberal than the Trump administration.

Although the MAN participants have a higher institutional trust mean than the Dryhurst et al. (2020) sample, no open-ended survey responses expressed a sense of trust in the government. Rather, several MAN members highlighted their lack of trust in the government. One respondent discussed the government's role during the COVID-19 pandemic, saying, "When the pandemic hit, my first thought was to look for grassroots groups... knowing that government resources and non-profit organizations often failed to respond quickly and equitably… Better government is helpful, but it's never met the needs of the people." This quote highlights findings that emergent groups and MANs develop when institutions fail to adequately meet people's needs during and after crises (Dominguez et al. 2020; Murphy 2007; Spade 2020; Twigg and Mosel 2017).

The results do not support H6, which stated that the lower a person's institutional trust in the U.S. government, the more likely they will join a MAN for basic necessities. Similar to explanations for hypotheses two and four, there are many factors that influence the decision to join a MAN. Nearly half of respondents (45.5%) indicated that basic necessities were very important in joining a MAN, but there was not a relationship between institutional trust and the importance of basic necessities in joining a MAN.

The open-ended responses provided some additional insight into political action (related to institutional trust in governments) and MAN involvement. Several respondents emphasized that mutual aid itself is political. One MAN member mentioned, "The best mutual aid efforts, in my experience are the ones that understand that mutual aid is inherently political and requires addressing and fighting oppression, ones that see how this crisis is connected to and a product of racism and other injustice systems." Another respondent shared, "…people get upset when things wander into 'political' areas in their mind, not understanding that Mutual Aid itself IS political." A third participant shared, "My organization views mutual aid as inherently political and we don't shy away from being transparent on our beliefs, nor the fact that all levels of government and both administrations have spectacularly failed low income individuals." These responses highlight how MAN involvement is political, especially when efforts address racism and other injustices. The responses echo mutual aid literature which highlight that mutual aid is political by restructuring social relationships through engaging with others in these informal horizontal-led networks and advocating for justice, including racial and health justice (Bell 2021; Chevee 2021; Jun and Lance 2020; U.S.A. Covid Mutual Aid 2021).

Other responses make the connection between institutional trust and MAN efforts. One respondent shared their MAN's resistance to engage with any government, "We are strict about remaining unaffiliated with any government… The history is deep and no U.S. government will ever do enough for the people it has committed genocide against, relocated and forced to small corners around the stolen lands." The lack of institutional trust is connected to a refusal to partner with the government, especially with the U.S. government's historical genocides. Another MAN participant shared more about their MAN's efforts, "Across the seven or so efforts this past year, there's been probably over $200,000 in direct aid raised and distributed just

in this mid-sized city… We have done more for each other than the government would even dare." These responses emphasize that emergent groups respond to institutional failures (Dominguez et al. 2020; Murphy 2007; Spade 2020; Twigg and Mosel 2017).

Study Limitations

There are some limitations of this research. One primary limitation is that this was a convenience sample, so participants from other MANs around the United States were not included in the sample and it is not representative of all MANs in the U.S. Also, since this research used a convenience sample, there is bias. Approximately 80% of respondents were cisgender women, and approximately 90% of respondents were white. These significant proportions of cisgender women and white respondents demonstrate that the results do not reflect the experiences of men and BIPOC MAN members. Another main bias from this research is that the survey respondents represent those who had the time and technology to complete the online survey. Other MAN members who might not have had time or access to technology were likely not included in the survey sample. A skewed sample could shift the results if the sample was not representative of the population. Lastly, my own personal bias as a researcher is present. While I am a MAN participant, my paradigm of mutual aid is limited and influenced the research methodology and design, survey questions and data analysis.

One limitation with the hypotheses is that the results of this study were compared with data from nearly one year ago during a different phase of the COVID-19 pandemic and with different political leadership in the U.S. Due to this time difference, it was especially difficult to compare COVID-19 risk perception and institutional trust considering major changes and upheaval between 2020-2021.

One key problem that may have influenced results is automated bots. Over 1,000 automated internet bots accessed and completed my survey in pursuit of the three $50 raffled gift cards (Methods). Since there were many responses with insufficient information to classify the respondent as a human or as a bot, the responses that were uncertain were labeled as a bot to preserve a bot-free dataset. After following the steps to remove the bots, over 1,000 responses were removed from the final dataset. The results may have been different if responses were not removed, or some responses with insufficient information to classify as a human or bot were kept in the final dataset. The one main change I would make in my procedure if I were to conduct this study again would be, unfortunately, to not offer a financial incentive for participation. Another potential change would have been to offer the incentive in a coded language that bots would not understand (e.g. using a mixture of numbers and letters such as g1ft c4rd or r4ffle). A third option would be to send the survey to people via email. However, since these are informal networks where membership is fluid, obtaining email addresses may be challenging. The bot infiltration resulted in a premature cessation of the survey once I had exhausted all available bot protections. I could have reached more MAN members, had a longer data collection process and kept all survey responses if the bots did not access my survey.

Future Research

In addition to addressing these limitations, future research can expand on COVID-19 MANs and mutual aid in general. Since this sample may not be representative of MAN participants, utilizing different strategies can reach people who may have been excluded from this sample. Conducting in-person surveys, offering iPads to complete the survey, and recruiting assistants and translators to help with surveys are a few opportunities to reach more people who may have difficulty accessing or utilizing technology. These are a few options for future survey

research, although in-person research depends on national, regional and local COVID-19 restrictions and participants' social distancing preferences.

In addition to various strategies to expand people's access to surveys, future research can expand to include other types of MANs such as neighborhood-specific MANs, support groups for specific health concerns or specific age groups, or mutual aid for owners of small businesses in a particular area. These groups can be compared to examine membership, needs and use. Future research can also explore regional and geographic differences, such as mutual aid in urban and rural areas to provide further insight into mutual aid throughout the United States. Research can also explore mutual aid in other countries since thousands of MANs have emerged worldwide.

Another major research opportunity is conducting qualitative research methods, including semi-structured interviews, to help gain further insight into people's experiences with mutual aid during the COVID-19 pandemic. Qualitative research can especially help us to explore questions such as, "Why did you join your mutual aid network?" or "How do you interact with other mutual aid network members during the COVID-19 pandemic?" from the points of view of the participants.

Further research can illuminate mutual aid amidst multiple crises. While many MANs emerged due to COVID-19, other crises occurred simultaneously. One major crisis is police-caused homicide and systemic racism in the United States, which the murder of George Floyd Jr. exemplified. Other examples of crises include climate change disasters such as the February 2021 snowstorm in Texas, or the Pacific Northwest heat dome during Summer 2021. Bell (2021) emphasized that mutual aid groups who support communities will continue to be needed in the future, "particularly as further disasters arise under a changing climate." Learning more about

MANs can help us understand community response to various concurrent disasters and prepare for future crises.

Research Significance and Implications

This research has practical, theoretical, methodological and policy implications. Firstly, the results offer practical implications for partnerships between local community organizations and MANs. Many respondents indicated that they receive COVID-19 information, food and local resources from MANs. One main practical implication is that local community organizations can collaborate with MANs to reach more people since MANs serve as central hubs for various local resources. For instance, one collaboration opportunity could be with local health departments who can partner with local MANs to share important local COVID-19 vaccination, testing and protocol information. Since many MAN participants are vaccinated and have lower COVID-19 risk perception compared to the overall U.S. population ((based on Dryhurst et al. (2020)), building partnerships with local health departments can help spread health communications, services and foster relationships with health practitioners. Another practical implication is that food banks and other food providers can also connect with MANs to distribute food since many people seek food in MANs. This research contributes to existing MAN literature, which explains that MANs are instrumental in distributing resources (Bell 2021; Chevee 2021; Jun and Lance 2020; Ruffin 2021; Travlou 2020), and emphasizes the importance of local community organizations collaborating with MANs to spread critical information about community services or events.

Many respondents also indicated that they receive social and emotional support from MANs. Social and emotional support through online communities during the COVID-19 pandemic has important implications for health practitioners, especially mental health providers

and people experiencing mental illness (Bunting et al. 2021; Krentzman 2021). Mental health

providers can connect patients with MANs, which can be a space for encouragement and support

(Dominguez et al. 2020). While social trust has decreased in the United States for the past fifty

years, the trust between MAN members and higher social trust levels ((compared to (NORC1

N.d.)) may lead into a resurgence of social trust throughout the nation, considering the wide

emergence of mutual aid within the past 18 months (NORC2 N.d.; Putnam 2000).

This research provide valuable insight to those who participate in MANs about mutual

aid in other U.S. MANs, educate those who are not currently involved in mutual aid during the

COVID-19 pandemic throughout the United States and provide information if people wanted to

connect with local MAN(s). The research results also provide information for mutual aid

organizers such as types of resources offered and received in MANs and demographic data of

MAN participants.

This research also contributes to theoretical literature and sheds light on current emergent

groups and mutual aid efforts. Current literature explores emergent groups and MANs

independently, and my research highlights the intersection between the two. By establishing the

connection between MANs and emergent groups, we can better understand how people survive

crises, especially the COVID-19 pandemic. The results also found that many people seek MANs

for basic necessities and social support during the COVID-19 pandemic. The search for MANs

and the critical resources they provide echo Kropotkin's (1902) emphasis on mutual aid as a

means for survival.

This research also has policy implications. Structural inequalities have been exacerbated

during the pandemic, and while mutual aid is one opportunity to meet needs, this research can

inform and advocate for government officials to better address systemic inequalities in

communities throughout the United States (Bell 2021; Dominguez et al. 2020; Jun and Lance 2020; Spade 2020). While institutional trust has decreased in the United States over the past 50 years, MAN participants have higher institutional trust ((based on Dryhurst et al. (2020)). Government institutions from the city, county, state and national level can acknowledge and contribute to the work of MANs, especially since emergent groups form in response to institutional failures (Dominguez et al. 2020; Murphy 2007; Spade 2020; Twigg and Mosel 2017). The American Sociological Association (ASA) can follow the example of the American Psychological Association (APA) by engaging with MANs from the grassroots level, and advocate for policies that support marginalized communities affected by the COVID-19 pandemic (Dominguez et al. 2020).

The results have methodological implications for sociological and social science research. One main research implication is that bot infiltration of online surveys can have devastating consequences on social science research. The difficulty of determining whether respondents are humans or bots can ruin or skew data, botch important datasets and influence real-life consequences of research and data. Sociological researchers, educators and the larger ASA community can benefit by conducting research, working with software platforms, collaborating with research institutions to develop protocols to prevent bots from accessing survey research and establishing best practices for cleaning bot-infiltrated datasets.

The COVID-19 pandemic, among other crises, demonstrates how community-level responses such as MANs emerge to meet individual and community needs. During the COVID-19 pandemic, thousands of MANs propagated throughout the world to support community members and share social support and resources with the intention of solidarity, rather than charity (Covid-19 Mutual Aid UK N.d.; U.S.A. Covid Mutual Aid 2021). This research revealed

MAN participant demographics, MAN activities and motivations for participating. We can better

understand how MANs mobilize communities to meet needs during this pandemic by collecting

data on MAN characteristics. In addition to learning about these characteristics, this research

sheds light on COVID-19 risk perception, social and institutional trust among MAN participants.

Furthermore, this information offers a snapshot glimpse into peoples' worldviews during the

pandemic and contributes to emergent group and mutual aid research. Since we are uncertain

how long COVID-19 will continue to spread and what will be the aftermath of this pandemic,

emergent groups will continue to exist as long as people need support. Stallings and Quarantelli

(1985) emphasized the role of emergent groups and their important role in disaster-related

community mobilization, "...these kinds of emergent citizen groups [that respond to disasters] are

likely to be even more prominent in the future than they are at present." Mutual aid will continue

to exist as people persevere through various and multiple crises. As Peter Kropotkin asserted,

mutual aid will remain consistent throughout the world and "all vicissitudes of history"

(Kropotkin 1918).

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Appendix A: Message to Mutual Aid Network Organizers

Dear _____,

My name is Allison Cutuli and I am a Master's student at the University of Montana. My thesis research is on COVID-19 Mutual Aid Networks (MANs) and I'm seeking members of MANs who might be willing to take a survey on this topic. Since you are listed as a main contact for your mutual aid network, I am writing to you to ask for you help to share this survey link and the following invitation with your MAN members:

"Hello mutual aid members! My name is Allison Cutuli and I am a Master's student at the University of Montana and also a mutual aid participant. My thesis research is on U.S. COVID-19 Mutual Aid Networks. This research is useful to learn more about mutual aid during the pandemic. I would greatly appreciate it if you would be able to fill out this 10-15 minute survey on your mutual aid experience. Your participation is voluntary and your responses will be kept confidential. No personally identifiable information will be connected with your responses in any reports of the data.

By participating in the survey, not only are you helping provide beneficial information, you can enter a raffle to win 1 of 3 $50 Visa gift cards. You also will have the opportunity to request a copy of the survey results at the end of the survey. To participate, click the survey link here: https://umt.co1.qualtrics.com/jfe/form/SV_a2A5ikLlKj6ViPI

If you have any questions or comments about the survey, you can email me at allison.cutuli@umontana.edu or my advisor, Professor Kathy Kuipers at kathy.kuipers@umontana.edu. Thanks!"

_____

NOTE: If the main contact asks me to post this myself, I would post this same description.

Appendix B: Survey

Thank you for taking the time to read and answer the following questions.

The purpose of this study is to help us understand the experience of mutual aid network participants, especially with COVID-19 risk perception and trust.

Instructions:

1. Completion of this task takes approximately 10 minutes.
2. Please read the situational description below and answer each question carefully. Be as honest as possible in your answers.
3. Your participation in this study is voluntary and you may skip questions that you may not be comfortable with or you may stop answering questions at any time.
4. Your privacy and confidentiality are important to us. Your name and any personal information will never be attached to your answers here per the ethical standards of the American Sociological Association and the University of Montana. This project has been approved by UM's Institutional Review Board.
5. If you would like to be entered for 1 of 3 $50 Visa gift cards, after the survey is completed you will be taken to another page where you can enter your contact information.

Thank you in advance for your participation in this important study.

Allison Cutuli
Project Director
Graduate Student
Department of Sociology
University of Montana

*Mutual Aid Networks are shortened as MANs in spaces below to save space

Variable and Hypothesis	Author	Question	Selections
		Have you read the instructions (or had someone read them to you) and do you agree with the terms of participation?	Yes No
		Before you proceed to the survey, please complete the captcha below.	Click to confirm I'm not a robot

MAN Information		How did you hear about your MAN?	Family member or friend Neighbor, co-worker or acquaintance Website Social media Organization Church, temple or place of worship Newspaper article or television report Community event Advertisement Email Other (please specify)
		When did you join your MAN?	Before March 2020 Between March - June 2020 Between July - October 2020 Between November 2020 - February 2021 After February 2021
		In what state do most of the participants in your MAN reside?	Drop down selection of states
		On average, how often do you participate per month in MAN-related interactions?	More than 11 times per month 6-10 times per month 1-5 times per month None Other (please specify)
H2		How important were the following resources in your decision to join your MAN? – Social support (e.g. Emotional support, friendship, etc.)	Very important Somewhat important Neither important nor unimportant Somewhat unimportant Very unimportant
H4		How important were the following resources in your decision to join your MAN? – Basic necessities (e.g. Emergency funds, food, shelter, etc.)	Very important Somewhat important Neither important nor unimportant Somewhat unimportant Very unimportant

H6		How important were the following resources in your decision to join your MAN? – COVID-19 and/or local resource information (e.g. vaccination information, unemployment information, etc.)	Very important Somewhat important Neither important nor unimportant Somewhat unimportant Very unimportant
		How important were the following resources in your decision to join your MAN? – Other (please specify)	Very important Somewhat important Neither important nor unimportant Somewhat unimportant Very unimportant
		What resources have you <u>received</u> from your MAN (if any)? Select all that apply.	Emergency Funds Food Household Supplies Shelter Transportation Access to Healthcare or Medications Childcare/Eldercare/Petcare COVID-19 Information Emotional or social support Activism/Advocacy Employment Information Local Resources Other (please specify)
		What resources have you offered from your MAN (if any)? Select all that apply.	Same options as previous question
Risk perception of COVID-19 H1, H2	Dryhurst et al. (2020) The following six questions are used as COVID-19 risk perception	<u>How worried are you personally about the following issues at present?</u> Indicate your response on a scale of 1 to 7 where 1 means "Not at all worried" and 7 means "Very worried"- <u>Coronavirus/COVID-19</u>	7 point Likert scale: 1 = Not at all worried, 7 = Very worried

	scale for H1 and H2		
H1, H2	Dryhurst et al. (2020)	<u>How likely do you think it is that you will be directly and personally affected by the following in the next 6 months?</u> Indicate your response on a scale of 1 to 7 where 1 means "Not at all likely" and 7 means "Very likely"- <u>Catching the coronavirus/COVID-19</u>	7 point Likert scale: 1= Not at all likely, 7 = Very likely
H1, H2	Dryhurst et al. (2020)	<u>How likely do you think it is that your friends and family in the country you are currently living in will be directly affected by the following in the next 6 months?</u> - Indicate your response on a scale of 1 to 7 where 1 means "Not at all likely" and 7 means "Very likely"- <u>Catching the coronavirus/COVID-19</u>	7 point Likert scale: 1= Not at all likely, 7 = Very likely
H1, H2	Dryhurst et al. (2020)	How much do you agree or disagree with the following statements? - <u>The coronavirus/COVID-19 will NOT affect very many people in the country I'm currently living in</u>	Reverse coded, 5 point Likert scale: 1 = Strongly disagree 2 = Somewhat disagree 3 = Neither agree nor disagree 4 = Somewhat agree 5 = Strongly agree
H1, H2	Dryhurst et al. (2020)	How much do you agree or disagree with the following statements? - <u>I will probably get sick with the coronavirus/COVID-19</u>	5 point Likert scale: 1 = Strongly disagree 2 = Somewhat disagree 3 = Neither agree nor disagree 4 = Somewhat agree 5 = Strongly agree
H1, H2	Dryhurst et al. (2020)	How much do you agree or disagree with the following statements? - <u>Getting sick with the</u>	5 point Likert scale: 1 = Strongly disagree 2 = Somewhat disagree 3 = Neither agree nor disagree 4 = Somewhat agree

		coronavirus/COVID-19 <u>can be serious</u>	5 = Strongly agree
		Have you had COVID-19?	Yes No Unsure
		Do you know anyone who has had COVID-19?	Yes No Unsure
		Have you or someone you know been hospitalized from COVID-19?	Yes No Unsure
		Has someone you know died from COVID-19?	Yes No Unsure
		What are your plans for receiving the COVID-19 vaccine?	I am fully vaccinated (2 doses of Moderna/Pfizer, or 1 dose of Johnson & Johnson) I have received my first vaccine and plan to receive my second (if applicable) I am planning on getting vaccinated I am not planning on getting vaccinated Other (please specify)
		If you are <u>not</u> planning on receiving the COVID-19 vaccine, please indicate your most important reason for not receivinv the vaccine.	Health concerns Lack of access to vaccines I am not worried about getting COVID-19 I am unsure that vaccines are effective I am unsure that vaccines are safe Other (please specify)
		Which of the following steps, if any, have you taken in the last month to prepare for the possibility of many cases of the coronavirus/COVID-19 in	Washing your hands more often Using alcohol-based hand sanitizer more often Wearing a face mask

		your community? Select all that apply.	Avoiding social events (e.g. parties, family gatherings) Avoiding public transport Eating out less at restaurants Touching your face less Shopping for groceries less often Cooking at home more often Staying home from work Purchasing extra supplies or food
Social Trust H3, H4	GSS 2018 Data (NORC1 N.d.)	Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?	Most people can be trusted Need to be very careful
		For the following nine questions: "Using the following scale, please indicate how much you agree or disagree with the following statements:"	
		I trust my MAN members	Strongly disagree Disagree Neutral Agree Strongly agree
H4	Generalized social trust scale = The following six references from Yamagishi and Yamagishi (1994)	Most people are basically honest	Strongly disagree Disagree Neutral Agree Strongly agree
		It's hard to find a person who knows the difference between truth and lies	Strongly disagree Disagree Neutral Agree Strongly agree

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H4	Yamagishi and Yamagishi (1994)	Most people are trustworthy	Strongly disagree Disagree Neutral Agree Strongly agree
H4	Yamagishi and Yamagishi (1994)	Most people are basically good and kind	Strongly disagree Disagree Neutral Agree Strongly agree
H4	Yamagishi and Yamagishi (1994)	Most people are trustful of others	Strongly disagree Disagree Neutral Agree Strongly agree
		People are more attracted to what is false and sensational than to what is true	Strongly disagree Disagree Neutral Agree Strongly agree
		I am trustful	Strongly disagree Disagree Neutral Agree Strongly agree
H4	Yamagishi and Yamagishi (1994)	Most people will respond in kind when they are trusted by others	Strongly disagree Disagree Neutral Agree Strongly agree
Institutional Trust H5, H6	Trust in government scale = The following 3 questions for H5 Dryhurst et al. (2020)	Indicate your response on a scale of 1 to 7 where 1 means "Not at all" and 7 means "Very much": <u>How much do you trust the country's politicians to deal effectively with the pandemic?</u>	7 point Likert scale, 1 = Not at all, 7 = Very much

		"For the following seven questions: How much do you trust each of the following entities?"	
H5, H6	Dryhurst et al. (2020)	Politicians in the country you are living in	5 point Likert scale, 1 = Cannot be trusted at all to 5 = Can be trusted a lot
H5, H6	Dryhurst et al. (2020)	The current government of the country you are living in	5 point Likert scale, 1 = Cannot be trusted at all to 5 = Can be trusted a lot
H6		The current government in the state where you live?	5 point Likert scale, 1 = Cannot be trusted at all to 5 = Can be trusted a lot
H6		The county officials where you live?	5 point Likert scale, 1 = Cannot be trusted at all to 5 = Can be trusted a lot
H6		The city officials (mayor, city council, etc.) of the town where you live or nearby?	5 point Likert scale, 1 = Cannot be trusted at all to 5 = Can be trusted a lot
Demographics		How would you describe yourself? Select all that apply	White or Caucasian Black or African American American Indian, Native American or Native Alaskan Asian Native Hawaiian or Pacific Islander Multiracial or Biracial Middle Eastern/North American (MENA) or Arab Prefer not to say Another identity not listed here (please specify)
		How would you best describe your ethnicity?	Hispanic or Latinx Non-Hispanic or Non-Latinx Unknown ethnicity Decline to answer Another ethnicity not listed here (please specify)

		What year were you born?	Drop down menu of years
		What is your gender identity?	Cisgender woman (Assigned female at birth and identify as a woman) Cisgender man (Assigned male at birth and identify as a man) Transgender woman (Assigned male at birth and identify as a woman) Transgender man (Assigned female at birth and identify as a man) I do not identify with a gender binary Prefer not to say My identity is not listed above (please specify)
		Do you identify as disabled?	Yes No Unsure (please specify)
		What is your marital status?	Single (never married) Married or in a domestic partnership Widowed Divorced Separated Other (please specify)
		With what religious identity, if any, do you most closely identify with?	Christian Catholic Jewish Muslim Buddhist Hindu No religion Prefer not to say Other (please specify)
		What is the highest degree or level of school you have completed?	Less than a high school diploma HS degree or equivalent (ex. GED) Some college, no degree Associate degree

			Vocational training Bachelor's degree Master's degree Professional degree Doctorate degree
		What is your current employment status? Select all that apply.	Employed full time (40+ hours/week) Employed part time (up to 39 hours/week) Unemployed and currently looking for work Unemployed and not currently looking for work Student Retired Military Homemaker Self-employed Unable to work
		Including yourself, how many people live in your household?	Drop down menu of 1 to 10+
	Dryhurst et al. (2020)	Indicate your response on a scale of 1 to 7 where 1 means "Very left wing/liberal" and 7 means "Very right wing/conservative": <u>Where do you feel your political views lie on a spectrum of left wing (or liberal) to right wing (or conservative)?</u>	7 point Likert scale, 1 = very left wing/ liberal, 7 = very right wing/ conservative
		Which of these describes your yearly <u>household</u> income?	< 10,000 10,000-24,999 25,000-49,999 50,000-74,999 75,000-99,999 100,000+ Prefer not to answer
		Please share anything else about yourself, your local	Leave open-ended

		mutual aid network, or mutual aid networks in general.	
		Do you have any feedback about the questionnaire?	Leave open-ended
			Thank you for your participation in this survey! **You will be automatically directed to a page where you can enter the drawing for a $50 Visa gift card and/or get results from this survey. The two surveys will <u>NOT</u> be liked to each other.**
	Separate survey	In order to be entered for a $50 Visa gift card, please enter your email below. Thank you for your participation.	Leave open-ended
	After the completion of surveys		We thank you for your time spent taking this survey. Your response has been recorded.

Appendix C: Open-Ended Text Responses

"Please share anything else about yourself, your local mutual aid network, or mutual aid networks in general."

I love being able to participate by driving food and supplies to folks who request help. I like being involved in a group that cares about people and will lend their time, effort, and privilege without trying to "save" folks
I worked for the last 4 months as a COVID tester and vaccinator. I was fired yesterday for very questionable reasons. Thus - I've been on the front lines and was vaccinated in group 1a - and had heavy clinical exposure to symptomatic COVID-19 patients.
We have been very blessed by our Maine state Corona FB page. People have helped us with 2 emergency vet bills, heat and information that has been extremely helpful. Sandy started our group and she has blessed so many people with this group! [Name changed]
I've watched the postings on Facebook, thinking I would help if I could, but generally every need appears to be met before I even see the post.
I only reached out to get help moving a used item I purchased on Facebook Marketplace and was pleasantly surprised that they could help. Would ask again. Also asked for help on Nextdoor, that was actually less easy but eventually worked out.
Mutual aid networks have provided a way to connect as a community during a pandemic that has left many isolated.
Imperfect but much better than nothing. I get irritated with some of the bickering but overall it's very encouraging to see people's generosity
My organization views mutual aid as inherently political and we don't shy away from being transparent on our beliefs, nor the fact that all levels of government and both administrations have spectacularly failed low income individuals.
[L]Ast yr was the worst....loss loved ones , covid and pregnancy....mutual aid have been my guardian angels.....I luv them
Mutual aid is based on trust and recognizing the humanity and our neighbors. Once you see someone's humanity it's much easier to see their needs is valuable.
I was very glad that my community had mutual aid so people didn't fall through the cracks
Great ppl serving a beautiful mission
I have mostly donated funds through the network to Support others in our community.
My mutual aid network is small, a few friends, a couple family members and a couple neighbors.
Lynn MA has some amazing people belong with mutual aid
I'm a public health nurse. Given the reluctance of most mutual aid network members to follow science, it's been a frustrating group to follow, but I still did in case there were resources I could provide.
I am an admin in the COVID-19 Madison Mutual Aid group, and I am continually struck with how few dollars stand between people living at home and living in their cars or on the street. $80 for a new car battery can cause people to lose a job, then an apartment, then everything. VERY few people come to us trying to scam us for cash. Most people just need a little boost, and if they don't get it, they can end up in the gutter.
I am a graduate student, and there is a separate Cornell University Graduate Student Mutual Aid. The Ithaca Mutual Aid is more active and I am more active in it. But occasionally the members of the Ithaca Mutual Aid express frustration with the student population or the university broadly, particularly related to COVID cases rising. The tension is relatively mild, but it does seem related to the splintering of mutual aid groups.

Even people I don't fully "trust" deserve to survive. Do I trust that most people in my mutual aid group are being honest about their needs & what they want money for? Sure, most of them. I also trust that even if people are lying about what they're asking for money for, they're more "in need" and far less dishonest and cruel than capitalist corporations that steal workers' wages for greedy lazy CEO's and shareholders. No one should die because they can't afford to live. Workers of the world unite, who keeps us safe / we keep us safe, and all that good stuff.

At the beginning of the pandemic, I was laid off from my job and lost AirBnB income. Mutual Aid helped in that a friend was volunteering to get food to people, and gave me some, and I did not want to go into grocery stores, and used an open-air food distribution (in moderation because I did not need a lot of food.) I later got a full-time job from home and returned to my former part-time job. The group in Ithaca NY has been active.

My contact with our mutual aid network is almost exclusively via Facebook during the pandemic. Because of my age, we have spent most of the last year at home. Our Mutual Aid group has been exemplary in providing help and information to many people in our county.

The Asheville mutual aid groups have been so accessible through social media. It provides an extra sense of community in a time with so much less human interaction. I just saw a post from a currently unemployed former classmate and was so glad to have a platform to know that she needed help, and for the first time since pre pandemic was in a place to help out a bit.

Our local MA network is fantastic and grew very organically and seemed to start from food sharing and meeting basic needs but has since encompassed cash assistance, stopping evictions & utility shutoffs, and more political action. The only problem I've noted is when people come into MA and don't understand how it works...like that it doesn't work with a charity model, it's solidarity economy. Or people get upset when things wander into "political" areas in their mind, not understanding that Mutual Aid itself IS political.

Mutual aid for me, is a continuation of the small town mentality that I grew with. If someone needs help whether it's a meal, a listening ear, or someone to mow the lawn, you help because it could be you that needs help the next time. When I was 3, my mother was pregnant and the doctor put her on bed rest when she was 5 months along. I can remember my mother's and my grandmother's friends dropping off meals so all my father didn't have to worry about cooking after working all day. My home ec class in high school did meals for the seniors in our town.
Mutual aid networks have just moved from the kitchens and lawns of our small towns to the internet. To me, it emphasizes that in a way we are all neighbors, we are all connected.

Kinlani Mutual Aid is unique in the vast amount of mutual aids in the U.S. It is indigenous lead, autonomous, anti-capitalist & anti-colonialist. It's important that we embrace all types [of] people, age, gender, race etc. But our focus is on the natives of this land. Protecting the sacred and supporting those who need it most, the unsheltered community, the elders, disabled, immunocompromised, infants and children. We work with our community for our community. We are strict about remaining unaffiliated with any government or business and we are strongly against any police or military presence. We are completely transparent. All donations go out the door to those who need it. No one is getting paid. People working together, however they can, to help each other is what has made us so successful. Building relationships, understanding culture, respecting others & maintaining our "can't stop, won't stop" attitude toward covid relief has been essential to this process. We have done so many projects and continue to. I am so proud and so excited for anyone that gets involved in a mutual aid. That gives their time or skills or funds. I never thought my life would be impacted so greatly by this pandemic. I am grateful to continue my volunteering and to assist the indigenous people & Flagstaff community. The history is deep and no U.S. government will ever do enough for the people it has committed genocide against, relocated and forced to small corners around the stolen lands.

Pre-pandemic, I was involved in grassroots labor union organizing focusing on supporting workers that are often overlooked by the labor movement (like low-income workers, migrant workers, undocumented workers, sex workers, incarcerated workers, and harm reduction workers). When the

pandemic hit, my first thought was to look for grassroots groups that were responding to the way the crisis was exacerbating injustices that existed before the pandemic, knowing that government resources and non-profit organizations often failed to respond quickly and equitably, and knowing that this crisis would especially effect Black people, Indigenous people, undocumented people, low-income workers (including many healthcare workers, teachers, and service workers), incarcerated people, queer folks, single moms, and other populations experiencing marginalization. Since the pandemic, I've been involved in about seven different efforts, some which have persisted throughout the pandemic, and some that have dissolved after providing support during critical times. The best mutual aid efforts, in my experience are the ones that understand that mutual aid is inherently political and requires addressing and fighting oppression, ones that see how this crisis is connected to and a product of racism and other injustice systems. Better government is helpful, but it's never met the needs of the people. Working class people and BIPOC communities have always had to step up and organize to survive, and this pandemic has proved that.

In one mutual aid effort alone, we raised and distributed over $80,000 in direct aid through direct funds, grocery deliveries, prepared meals, hygiene products, and more. Across the seven or so efforts this past year, there's been probably over $200,000 in direct aid raised and distributed just in this mid-sized city, and the emotional support that comes with knowing the community has your back is immense. We have done more for each other than the government would even dare. But there is still so much to do and so much more to win.

We need universal healthcare. We need affordable housing. We need to abolish police and fund schools and healthcare (including mental health services). We need to get people out of prisons and end the racist bail system. We need affordable, funded, and safe childcare, as well as parental leave. We need sick leave and to normalize remote work whenever possible. We need extensive, accessible, free public transit. It's exhausting but necessary to fight not only to survive but to also to demand the change we need from a government system that will always find a way to avoid giving the people what we deserve, things that could have prevented countless deaths and could prevent countless more.