Love Thy Neighbor (Or Know Them, At Least)
Building Social Capital Before Disasters

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Introduction

Disasters can take many forms including natural disasters, terrorist attacks, or viral epidemics, but they all cause widespread damage and disrupt people's livelihoods to the extent that there is a need for outside help (Wisner et al. 2011). Because of this massive scale of devastation, the first responders that we usually rely on may not be able to get to us for days or weeks, leaving neighbors to provide lifesaving assistance to each other (Aldrich and Meyer 2015). There has been an increase in research that examines the relationship between social capital and disaster preparedness, and its effectiveness in facilitating community recovery post-disaster (Aldrich and Meyer 2015, Reininger et al. 2013). In 2011, the Federal Emergency Management Agency (FEMA) released a Whole Community plan for community resilience to disasters, with the suggestion for communities to come together and make a plan for resilience (FEMA 2011).

Social capital lies in relationships: participation in groups and networks leads to benefits for individuals and the community (Portes 1998). Important components of relationships include trust and reciprocity, which can be built through increased interactions with people (Glanville et al. 2013). However, in a time when social interaction in informal settings has been rapidly decreasing, where will neighbors be able to socialize and build the trusting relationships that will be so vital for establishing disaster resilience? Oldenburg (1989) introduces the idea of a third place: a place that is not home or work that can host regular, voluntary and informal gatherings of individuals.

Though third places are typically brick and mortar establishments that people can meet and mingle in, several authors have written about the possibility of a "virtual third place" through computer mediated communication (Soukup 2006, Steinkuehler et al. 2006). There has been criticism of technology as being completely opposite of building social capital -- of actually promoting individualism and displacing crucial civic and social institutions (Putnam 2000). However, more and more studies are indicating that social media can actually promote community engagement (Matthews 2016). Social networking sites can actually be a node in which people connect, and as a result, build social capital (Bouchillon 2014).

Background

Human Responses in Disasters

When thinking about disaster aftermath, often images of a desolate, apocalyptic landscape come to mind, with looters ravaging dilapidated buildings while army tanks roll in trying to control the situation. Although this kind of antisocial behavior does occur, it's often blown out of proportion by media representations, and in reality it is dwarfed by emergent prosocial behavior (Rodriguez 2006). In fact, disasters often encourage improvisation, collaboration, and cooperation since many social boundaries are brought down in the aftermath while everyone is focused on basic survival (Solnit 2009). One example of a collaborative improvisation post-disaster was the formation of the "student volunteer army" in Christchurch, New Zealand following their devastating earthquake in 2011 (Hayward 2013). The students organized themselves into a group numbering over 24,000 to help with the clean up efforts. Tis is just one of many examples of inspiring prosocial, improvisational behavior that emerge from the citizens affected by disaster.

The Importance of Social Capital in Disaster Response

The concept of social capital has been adopted by many different disciplines, but originated in the field of sociology. Although it didn't have a name back then, it's argued that the practice of social capital can be traced back to Durkheim and Marx (Portes 1998). Coleman (1988) was one of the first scholars to popularize it as a concept in social theory in the United States. According to Coleman (1988), social capital is defined by its function. It consists of accessing and connecting resources found through social networks that consist of friends, family and community members. Social capital need not be solely between people, but could also include organizations or businesses. Trusted organizations that are not disaster focused have been very helpful in both the relief and reconstruction periods of disasters since they remain in the area longer than outside aid does (Eller et al. 2015, Ozanne and Ozanne 2013). On the scale of the individual, social capital is not only important for relief and reconstruction, but also for planning and decision making. During Hurricane Katrina, social ties influenced whether people evacuated or stayed in their homes, as well as how resilient they were in recovering (Hawkins

and Maurer 2010). Social capital ensures that communities are taken care of after disasters as well, from deterring the dumping of garbage to communicating needs to the right authorities (Aldrich 2012). In the wider realm of risk communication, it was found that friends and family are the most trusted source of information regarding risk perception (Haynes et al. 2008). This has important implications for disaster preparation and evacuations, because it may be more effective to disseminate information via social networks instead of through (or, in addition to) scientists or government officials.

Scholars have split social capital into three types: bonding, bridging, and linking (Szreter and Woolcock 2004). Bonding social capital occurs between people who are similar in some way, resulting in tight bonds (Putnam 2000). Bridging social capital refers to relationships that span social groups, including socioeconomic status, age, race, and gender (Szreter and Woolcock 2004). Linking social capital involves connecting citizens with a group that has power over them (Szreter and Woolcock 2004).

Trust and Reciprocity

Social capital operates on the basis of close, trusting relationships within communities. Coleman (1988) describes this kind of trust as obligations and expectations, or a kind of delayed reciprocity within a community. Generalized reciprocity, or "I'll do this for you now, without expecting anything immediately in return and perhaps without even knowing you, confident that down the road you or someone else will return the favor" can also be thought of as short-term altruism and long-term self-interest (Putnam 2000, p. 134). Social capital generally makes everyone better off in the long-run.

Trust can be grouped into two categories: "thick" or "knowledge-based" trust that is embedded in strong, frequent relations, and "thin" or "general" trust that is extended to strangers within a shared social network based off of the expectations of trustworthiness (Putnam 2000, Yamagishi and Yamagishi 1994). Generalized trust is the most important for social capital operating on a neighborhood scale. In a longitudinal study, Glanville et al. (2013) found that increased socializing with informal social ties increased generalized trust. Porter et al. (2008) used three criteria to define trust: benevolence (willingness of a party to benefit another), integrity (a party's perception that another consistently relies on acceptable principles of

behavior), and judgement (a party's perception that another is able to make decisions that further the interests of both parties in a relationship).

Virtual Third Places

Virtual communities take many forms, from chat rooms to multiplayer games to online businesses. Although virtual third places are convenient because they can transcend time and location barriers, they also eliminate an important component of building trust face-to-face: nonverbal communication (Kasper-Fuehrera and Ashkanasy 2001). The eight characteristics of third place are neutral ground, leveler, conversation is the main activity, accessibility & accommodation, the regulars, a low profile, the mood is playful, and a home away from home (Oldenburg 1989).

Theoretical Framework

I reproduced the theoretical framework used by Steinkuehler et al. (2006) which was adapted from Oldenburg's (1989) discussion of third places. Steinkuehler adapted this theory of a third place to measure the feasibility of a multiplayer gaming community as a virtual third place, which is what I did using the app Nextdoor. Additionally, I utilized the framework of Afzalan and Evans-Cowley's (2015) analysis of the ability to activate citizen planning via a private Facebook group as a method of analysis. Their paper provided me with important theme baselines which I then adapted to my own study.

Situated Context

I chose to examine Nextdoor because it encourages neighbor-to-neighbor interactions in an online setting. Nextdoor is a unique platform in that it has all the capabilities of mainstream social media sites, but it has an added component of place: all Nextdoor users have to confirm where they live to gain access to their neighborhood content. Nextdoor acts as a kind of virtual third place for people to interact, but it also holds potential for people to meet in person since everyone lives in the same neighborhood. This aspect of locality and place is important in building third places, but is often absent from other computer mediated communications (Soukup 2006). Other studies have examined similar topics of online community engagement via private

Facebook groups, which is also a viable medium since it has a focus on local issues (Afzalan and Evans-Cowley 2015).

In a geographic sense, this study is situated in Portland, Oregon. Portland lies inland of the Cascadia Subduction Zone, which has produced devastating earthquakes of magnitude 9 on the Richter Scale. Oregon is currently unprepared for this kind of disaster: there will not be enough first responders to get to every community in need, so the Oregon Seismic Safety Policy Advisory Commission (OSSPAC) has recommended that communities begin to formulate their own plans for survival (Oregon Resilience Plan 2013). The director of the Portland Bureau of Emergency Management, Carmen Merlo, urges people to get to know their neighbors, as social cohesion is a big indicator of resilience (Gragg 2014). The current recommendation is to knock on neighbors' doors to introduce yourself, but trust-building interactions are usually formed over repeating interactions as opposed to a one-time meeting (Glanville et al. 2013). This study will focus on the Collins View neighborhood in southwest Portland as a case study to begin answering the overarching question: To what extent can third places enhance the resilience of community networks before a crisis occurs? I've found that in Collins View, virtual third places are predominantly used for posts about giving and receiving help and providing information, which facilitates reciprocity and generalized trust, qualities needed for building social capital.

Methods

There were two components to my methodology; a content analysis of Nextdoor posts, and a corresponding survey that I distributed via Nextdoor. These two methods were aimed towards answering the question: What kinds of interactions are taking place between neighbors, and are they helpful or harmful in creating social capital? The qualitative analysis was aimed towards determining what the main themes of interaction were. The survey was a way for Nextdoor users to self-report, so I used it as a way to compare my own observations with the users' perceptions. The survey was designed to gauge the possibility of Nextdoor being a virtual third place and as an extension, a place for neighbors to build social capital.

I constrained my study area to the Collins View neighborhood, since in the event of a disaster, roads will likely be destroyed so people will need to walk everywhere. Collins View has

675 neighbors signed up, with 2,775 in surrounding neighborhoods as of March 2017. Although I filtered out posts by the other neighborhoods, if a Collins View neighbor decided to share their posts with the surrounding community, those community members could reply to posts. Additionally, Collins View neighbors have the option to see the posts in the surrounding neighborhoods, so the interactions in those neighborhoods could influence their overall perceptions of Nextdoor, and influence my own analysis of the type and number of relationships formed between neighbors. These perceptions of other neighborhoods could influence the survey results and the overall feasibility of Nextdoor as a third space, since it widens the geographic space that these communities come from and therefore could become less relevant for Collins View neighbors.

I analyzed 48 posts that range from October 1st, 2016-December 8th, 2016. Although there were actually 173 posts in Collins View during this time period, I chose to analyze these particular posts because they each had four or more replies to them. Of the 173 posts, the average number of replies was 2.84, so I decided that four posts signified that the post was of above-average interest to people. Additionally, four replies would either allow for four different people to reply to the post, or a reply and subsequent follow up from two people, which could potentially create a connection between them.

After Portland experienced some severe winter weather, arguably a small-scale disaster that shut down the city for several days, I decided to perform a second analysis to see what role Nextdoor played in facilitating connection. This analysis consisted of 168 posts between December 11th and January 17th, roughly when the winter weather began and ended. This volume of posts in a roughly one-month period was close to the post total of my first analysis that was over a span of two months. The average number of replies in this period was 3.97, which was a significant increase from the previous period. For consistency, I continued to analyze posts with 4 or more replies, of which there were 60 in this period.

I analyzed the 48 posts for themes and sub-themes of interaction, beginning with the "categories" already available on Nextdoor: Classifieds, Crime & Safety, Documents, Free Items, General, Lost & Found, and Recommendations. Many of the posts in General had to be recategorized into more specific categories.

I created and administered the survey to determine how consistent my observations were with the neighbors' self-reported perceptions. The survey is important in measuring certain attitudes like trust or annoyance that are difficult to extrapolate from qualitative post analysis. Additionally it provides demographic and usage data that would otherwise be unknown. Below are several questions that pinpoint themes of trust, inclusivity, and virtual third places.

Which of the following would you be comfortable doing with a neighbor you met on Nextdoor? This question included eight actions that a person could take, ranging from borrowing an item from a neighbor to giving them a key to their house in case of emergency. It was crafted to indirectly access levels of trust by examining behavioral manifestations of social capital in daily life (Aldrich and Meyer 2015).

Which of the following do you associate with Nextdoor? This question included Oldenburg's eight characteristics of third place, tailored to Nextdoor's functionalities (Oldenburg 1989).

Who do you see as active members on Nextdoor? This question was included to determine whether certain groups in the neighborhood were perceived as invisible.

Survey Results

Most neighbors check their accounts either a few times a week (43.8%) or every day (40.6%). Out of the 64 survey participants, 63 of them would recommend Nextdoor to a friend. Over half (56.2%) of the participants had met a neighbor in person because of Nextdoor; of this percentage, 34.4% had met 1-3 neighbors, 6.3% had met 3-6 neighbors, 9.4% had met 6-10 neighbors, and 6.3% had met more than 10 of their neighbors due to Nextdoor.

When analyzing the behavioral manifestations of social capital in daily life (Aldrich and Meyer 2015), in other words the amount of trust people exhibit towards neighbors met on Nextdoor, providing a needed service was highest (72.6%), followed by meeting for a social activity (71%), borrowing an item (62.9%), then feeding a pet or watering plants while away (51.6%). Participants were less comfortable enjoying a meal together (22.6%), house-sitting while away (16.1%), providing or receiving child care (12.9%), or giving someone a key to their house in case of emergency (4.8%). These findings also align with the qualities of third places: people are more likely to meet on neutral ground where they can come and go as they please,

which might explain why more people are willing to meet for a social activity and less likely to commit to sitting down to enjoy a meal together (Oldenburg 1989). Additionally, these results could correspond to the demographic of the neighborhood. Perhaps a neighborhood with more children would require more childcare, or a neighborhood with more single people like college students or young professionals would be more likely to house-sit.

Although not all criteria of a third place scored highly in the survey, 82.8% of people associated Nextdoor with useful conversation, which Oldenburg argues is one of the most important qualities of the eight criteria. This was followed by being easily accessible (75%) and making people feel like part of a community (62.5%). Getting to know neighbors was next (43.4%), and then Nextdoor as a neutral platform to share information was next (43.8%).The least selected quality of Nextdoor was to be accepted regardless of social status elsewhere (25%) which could align with demographic information as well: 88.4% of respondents had completed a college degree or postgraduate degree, suggesting that most people on Nextdoor Collins View are of a similar status, at least in terms of education which is a large contributor to social status.

In an attempt to identify possible "outsiders" in the neighborhood, I asked which groups people had been bothered by before. There were only 33 responses which is low compared to the full sample of 64 participants. College students and Other were tied as bothering the most people at 36.4% and 30.3%, respectively. In the same way that positive informal interactions can generalize trust to a larger group of people, negative associations can also be generalized to a larger group, namely college students. Lewis & Clark students, although transient members of the community, could still be very important to community resilience after an earthquake by transporting goods, clearing rubble, and accessing their own networks -- therefore it's important that they are seen as members of the community to ensure their involvement.

Summary Table of Survey Results

Topic	Response	%
Major uses of Nextdoor	General	76.6
	Crime & Safety	70.3
	Neighborhood Information	68.8

Neighbors met in person due to Nextdoor	0	43.8
	1-3	34.4
Behavioral manifestations of trust	Provide a needed service	72.6
	Meet for a social activity	71
	Borrow an item	62.9
Nextdoor as a virtual third place	Useful conversation/posts	82.8
	Easily accessible	75
	Makes me feel like part of a community	62.5
Negative associations with Nextdoor	Irrelevant posts	50
Perceived active members	Long-term neighbors	85.5
	Neighborhood newcomers	67.7
	Neighborhood organizations	59.7
Bothersome groups	College students	36.4

Table 1: Summary of survey results

There was a section in the survey to write a short response if desired; of the 64 participants, 16 wrote responses. Most of the responses were overall positive, though six of them mentioned posts "attacking" people, getting too political, or being irrelevant. Several responses praised Nextdoor as a useful social tool that promotes a small town feel and local get-togethers. Below is one vignette of a Nextdoor success story:

> I moved here 9 months ago. I am retired and came from a small rural community in CO mountains. I am used to easy relations with neighbors. I felt isolated my first weeks here until I discovered Nextdoor. I have gotten and given free items, have shared information on local gardening and services needed. I met 2 neighbors because of items offered, we see each other occasionally. I do not feel so isolated!

In summary, the survey results indicated generally positive perceptions of Nextdoor, with the biggest concern being irrelevant posts. Participants also reported high willingness to participate in behavioral manifestations of trust, though they were generally informal, low-commitment activities as opposed to higher commitment and more personal activities.

Content Analysis Results

The content analysis resulted in five main themes, partially adapted from Afzalan and Evans-Cowley (2015). The five themes are a) asking for help, b) information, c) community, d) buying/selling, and e) personal. Within these five themes, I identified sub-themes during the qualitative analysis by grouping posts together with similar key phrases.

Asking for Help

This theme had a total of 47.9% of posts from October to December, and 31.6% of posts during the snow storm. This theme emcompasses three sub-themes: lost & found, recommendations, and local requests, which are listed below with example posts. Recommendations consistently had a significant number of replies, as did Lost & Found posts. Most of the Lost & Found posts were about neighborhood animals, and resulted in neighbors meeting each other to retrieve their animal, as well as gratitude towards the finder.

- Lost & Found
→ MISSING CAT: Our dark grey cat has been missing since yesterday at 2pm. He does not have a collar. His name is Ernie and he has a very loud meow!! Thank you!!! (XXX) XXX-XXXX
- Recommendations
→ Looking for a good Christmas tree lot: Does anyone recommend a local lot for price, selection and service?
→ Plumber and Electrician: Do anyone know a plumber and electrician for a remodel?
- Local Requests
→ Looking to borrow a few fondue pots: My 12 year old daughter would like to have a fondue party and we are looking to borrow a few fondue pots if anyone is willing to lend theirs out. They would be returned December 3 (party is December 2). Feel free to PM me. Thanks so much!
→ Need Ride to Blazer Game: Any one going to the Blazer game tonight? We are right across from Lewis & Clark and the roads aren't too bad but we have 2 sedan type vehicles without great tires so don't want to risk it. Wondering if anyone going to the game could give us a ride. We have a ride home.

Local Information

This section made up 31.3% of posts from October to December, and 43.4% of posts during the snow storm. The sub-themes include safety, local knowledge / information, and planning /

engagement. These posts included local information, correspondence with local organizations, safety information, road conditions, and neighborhood meetings.

- ● Safety
- → USE CAUTION: Intersection at SW Ridge and SW 2nd: Please use caution. There are several 4-5" rocks mixed in with the debris covering roadway here. They are small enough not to see and large enough to do some real damage. I recommend using an alternate route altogether after dark. SIDE NOTE: Should the neighborhood have a stash of large orange cones somewhere for situations like this? If folks think that's a good idea, I'll pick some up next week.
- → Loud boom: Does anyone know what the loud booms in the vicinity of tereilliger and Alice street are? This is the third or fourth night in a row. Sounds like a shot or fire cracker???
- ● Local Knowledge
- → Did anyone in Collins View get their mail delivered today (Monday)?: At least two of us on View Point Terrace didn't, but had delivery on Friday and Saturday... Just curious.
- → play in the snow!: Where can we walk to in the neighborhood for safe sledding and snow fun? Just moved to the neighborhood this fall.
- ● Planning / Engagement
- → Collins View Neighborhood Meeting: Please join the neighborhood meeting at Riverdale High School next Wednesday, Nov 2, at 7 PM. Among other things we will be discussing the proposed footpath project. if you have concerns or topics you wish to be addressed, please email me so we can get them on the agenda.

Community

These posts comprised 10.5% of posts from October to December and 16.6% of posts during the snow storm. They were posts that brought groups together in some way, either physically or over a common interest. The sub-themes are animals, service, and gatherings / collective identity.

- ● Animals
- → 8-point Buck sighting at Greenwood Hill Cemetery: What a treat! While walking the pup this morning around 7:30am, a nice sized 8-point Buck wandered into the Cemetery off the SW Boones Ferry entrance close to SW Palantine Hill Rd. Unfortunately, I didn't have my phone on me to snap a photo. Be on the lookout, he's quite a spectacular sight to see. I've seen a few doe in RVNA but never a buck especially his size.

→ Humming bird feeder rig--- ideas?: Our little hummingbirds are really struggling in this weather. We are trying everything to keep the food coming. Anyone else have any better ideas? Please post a photo if you do. Thanks!

● Service

→ Emergency Relief Efforts: Urgent Winter Items Needed: [excerpt] ...As I can only imagine, this weather is absolutely beautiful from the comfort of our homes and just brutal if you have to live in it. Perhaps we can do a bit of good from this neck of the woods. Thanks for listening!

● Gatherings / Collective Identity

→ happy hour at our Igloo -today at 4:30: When life gives you snow, make snow cones! Now is the time to continue to build our community - so let's gather around the community igloo we made yesterday for snow cones and connections! All welcome. Snow cones will be served. If you'd like to offer something else to share, please feel free to bring something. Otherwise please now that your presence is the gift we seek. Igloo is located on XXXXXX. Hope to see You soon.

Buying / Selling

This theme comprised 8.3% of posts from October to December and 5% of posts during the snow storm. Most of these posts had the potential for neighbors to meet in person to exchange the items.

● Free Items / Classifieds

→ Free treadmill: Nice treadmill looking for a good home. Sole 63, deck raises up for storage. Message back thru Next Door

→ Les Schwab Quick Fit Sport LT Tire Chains $25: Model # 2318 Les Schwab Quick Fit Sport LT Tire Chains $25.00. Fits 225 70 16 tire size as well as other sizes (Per les Schwab). Used once.

Personal

These posts made up a mere 2.1% of posts from October to December, and 3.3% of posts during the snow storm. They were usually related to recommendations (or more specifically, bad experiences) but were categorized here if they involved a more biased opinion based off of a personal experience, or could be seen as "ranting". These posts were unsolicited by other members (contrary to people asking for recommendations) and usually negative in tone.

● Opinions

→ Stolen shovel: Some nice guy came to our door this morning and asked to borrow a shovel to dig out his car. My wife was trusting and gave him our shovel. Needless to say, the shovel was not

returned. Damn, it was a nice flat-scoop shovel that's nice for scraping hard snow and ice. I'm sorry as my trust in humanity just went down a notch.

→ Taco Bell: Has anyone visited the new Taco Bell that opened up on Barbur? I personally don't eat their food but I have gone there to get food for my son. The service and quality are beyond horrible. I went to the drive thru last night at 9:05, got to the speaker at 9:25 (there were 3 cars ahead of me). The girl taking orders told me to wait and didn't come back to take my order until 9:38. By that time, there was no one in front of me. When I got to the window, it took another 10 mins for the food. I finally got the food and brought home to my son; when he opened the bag, there were 7 items of the exact same thing, none of which we ordered! I called the Mgr and she said she was busy training people and didn't have time to talk to me! Save your self the headache and don't go there!

Twenty-three of the 48 of the posts I analyzed from October to December 2016 had the potential for people to meet in person, which is a total of 48%. Many of the interactions within posts that presented a potential for the neighbors to meet in person were in Classifieds and Lost & Found, since neighbors generally met to exchange the lost animal or bought item. Only 5 of the posts from the snow storm period had the potential to meet, a mere 8%. This could be due to limited mobility of people during this period, as the ice and snow kept most people homebound. However, there were several posts during this period that were specifically targeted at having neighbors over to build community and bond over the extreme weather over shared snow cones.

Animals were at the center of many of the community-building posts I analyzed, often resulting in an in-person meeting as well (returning a lost animal to its owner, for example). There are also generally a higher volume of replies to posts about hummingbirds, especially when the cold weather was threatening their food supply.

Summary of the Content Analysis Results

Theme	Pt. 1 Total %	Pt. 2 Total %	Sub-theme	% part 1	% part 2
Help	47.9	31.6	Lost & Found	12.5	3.3
			Recommendations	16.6	21.6
			Local requests	18.8	6.7

Information	31.3	43.4	Safety	6.3	26.7
			Local Knowledge / Information	10.4	16.7
			Planning / Engagement	14.6	0
Community	10.5	16.6	Animals	6.3	10
			Service	0	1.6
			Gatherings / Collective Identity	4.2	5
Buying / Selling	8.3	5	Classifieds / Free Items	8.3	5
Personal	2.1	3.3	Opinions	2.1	3.3

Table 2: Content analysis summary

In summary, most neighbors used Nextdoor to give or receive help or discuss local information. Usually giving and receiving help is the most used, but during the snowstorm local information became the most used category. There were a number of posts related to community, particularly around dogs, cats and hummingbirds in the neighborhood. Although there weren't large quantities of these posts, the number of replies on the ones that did appear suggested that this was a topic of interest to a number of neighbors. Buying and selling items were usually straight forward, though they were more likely to end in an in-person meeting. There were not many posts about personal opinions, though personal opinions sometimes came up in comment threads.

Discussion

Virtual communities like Nextdoor are gaining interest and membership -- within the four months of my study period, Collins View gained 50 members. As demonstrated in the survey, most people had more positive perceptions of Nextdoor than negative ones, and even demonstrated some generalized trust towards other neighbors through their willingness to engage in trust based activities with others. Additionally, most people associated Nextdoor with three different aspects of third place: conversation, accessibility, and community.

This suggests that Nextdoor is a successful virtual third place in Collins View, and although people may not have built up trust with their neighbors yet, this forum is a constructive way to do so. It is important to note, however, that this is a very specific demographic of people and cannot be generalized to other communities: the average person who took this survey was a

woman over 40 years old, white, college educated, living in a single family home with 1-2 people for over 15 years.

This is important in considering the type of social capital being built in the neighborhood. Based off of the homogeneous sample group described above, Collins View appears to be very homophilous in demographic terms, suggesting that bonding social capital may be the predominant type of social capital being formed. This is has both positive and negative repercussions. Although bonding social capital can allow people to receive warnings, locate shelters, and live-saving assistance, it can also encourage people to stay behind if loved ones don't want to evacuate (Hawkins and Maurer 2010). Additionally, although bonding social capital is important, combining it with bridging and linking capital offers the best chances for community resilience (Hawkins and Maurer 2010).

Although this study pointed to the feasibility of Nextdoor as a third place in Collins View, there are still some considerations to take into account when deciding to utilize virtual third places. One benefit of virtual third places is that they are a leveler, and in the online context, this rings even more true. In neighborhoods that are more heterophilous, this leveling of the playing field could allow for more bridging connections without any subconscious discrimination or judgement. Conversely, virtual third places also introduce the opportunity for more cyber bullying or harassment since people can hide behind the comfort of their own screen. The localized nature of Nextdoor may discourage this though, since users know that they live near each other and have a higher likelihood of running into each other in person than on an anonymous online forum.

Help and Information were utilized the most by users of Nextdoor Collins View, although their percentages were switched during the storm analysis and the initial analysis. Giving and receiving help via Nextdoor could be really beneficial to the community, since those are interactions that encourage reciprocity and trust. If someone needed help and received it thanks to posting on Nextdoor, they will be more likely to help someone else who asks for help later on, and both parties will be more likely to have more generalized trust for the community after those informal interactions with neighbors. Providing useful information as well as recommendations were helpful in building trust via integrity and judgement (Porter et al. 2008).

The snowstorm period ended up not having many differences to the initial period. There was definitely a higher volume of posts during the snowstorm, and more replies to posts: this could partly be due to the fact that people were snowed in for several days, which allowed for more time to be active on Nextdoor. The other difference was that there were more interactions around local information instead of giving and receiving help. In some ways, the sharing of information was a form of help: many of the posts were neighbors asking other neighbors for local road conditions so they could decide whether it was safe to drive or not. People also banded together and made caution signs to place on particularly treacherous streets.

The decision to include the snowstorm in my analysis was not to see how useful Nextdoor is as a tool post-disaster, because in the catastrophic earthquake we will not have power or internet for weeks after the event. Rather, it was a useful exercise in observing the social cohesion already present in the neighborhood. It wasn't drastically different from the initial period's analysis, but it did demonstrate the community's ability to come together, look out for each other, and build more trust after getting through it all together.

Future research could expand on this study in a number of ways. Replicating this study in different neighborhoods, especially those with a more heterophilous demographic, would add to the generalizability of this study. Comparing personal networks with virtual networks could also be interesting in determining Nextdoor's success at expanding people's' networks.

Implications

The implications of Nextdoor being a successful virtual third place could be very important in a society that continues to focus solely on work and home spheres, limiting interaction with people who encourage them to consider different viewpoints and ways of life. It could be a forum directed at the precise group of people who will need to be connected in the event of a disaster, which could vastly improve that neighborhood's resilience. If people are able to work together and organize efficiently after a disaster, it improves recovery time and frees up emergency responders to focus their efforts on more vulnerable parts of the city. Additionally, when communicating risk, people are more likely to listen to their friends and families than other authority figures like scientists and government organizations (Haynes et al. 2008). If

well-networked, trusted neighbors on Nextdoor can collaborate with emergency managers on the city or country scale, that could potentially be a very effective pathway to disseminate information. Perhaps even before the earthquake hits, the generalized trust that is being built on Nextdoor will encourage people to pay attention to preparedness warnings posted by neighbors, and take individualized steps to prepare such as making a kit or retrofitting their house.

Conclusion

With the increase of natural disasters due to climate change, and the ever present risk of technological or social disasters, it's more important than ever to establish networks within local communities. The rise of virtual third places could help streamline this process by providing larger groups of people access to spaces in which they can connect with their neighbors, which can help build safer communities in the short-term, and more resilient communities in the long-term.

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