

Daily vulnerability and disaster resilience: a case study of preferred community assets and social capital for Latinx coastal residents

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Abstract

Purpose – This study explores how marginalized populations in high-hazard-risk areas on the Oregon coast utilize valued locations and social networks to adapt to daily challenges and natural hazards.

Design/methodology/approach – We hypothesize that locations most valued for their associated resources (community assets) also support the most social capital. Focus group discussions and a novel conceptual mapping activity were employed to identify preferred community assets and associated social capital for Latinx residents.

Findings – Community-based organizations, churches and schools are the preferred community assets found to enable strong social capital, although differences existed in which forms of structural social capital were identified. Mechanisms by which relationships are formed in this case study and implications for disaster resilience are discussed and theoretically linked to other relevant contexts.

Research limitations/implications – We provide policy recommendations to utilize community assets and social capital to support disaster resilience for marginalized populations.

Originality/value – Recruitment of participants through a community-engaged process developed trust with Latinx community members. Focus group design addressed barriers to participation to create space for diverse perspectives. By applying social capital theory to this data, actionable insights are identified to better incorporate the values and needs of marginalized groups into disaster risk reduction efforts.

Keywords Cascadia, Oregon, Resilience, Disaster, Hazard, Latinx, Inequality, Vulnerability, Social, Networks, Assets, Marginalized

Paper type Research paper

1. Introduction

Vulnerable groups, including racial and ethnic minorities and low-income populations, are disproportionality impacted by natural hazards as a result of factors such as underlying

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poverty and income inequality (United Nations Office for Disaster Risk Reduction, 2015), racism and xenophobia and other established systems of oppression (Atallah, 2016; Mahajan *et al.*, 2021). Building of community resilience to disasters requires the designation of critical infrastructure (National Institute of Standards and Technology, n.d.), however previous research has highlighted how decision-making regarding the prioritization and allocation of resources to critical facilities often fails to incorporate the perspectives of marginalized communities (Stanton and Tilt, 2023). This may increase vulnerability if community members prefer to utilize alternate locations more exposed to hazards.

However, what is not well understood is the underlying mechanisms that make some community assets highly preferred spaces while other spaces are not. Research in recent years has identified social capital as having a mitigating effect on hazard vulnerabilities (Aldrich, 2012), for example through the sharing of information and resources to respond to crises (Tierney, 2015). Furthermore, stronger social ties and levels of trust have been associated with undertaking hazard preparedness activities such as evacuation drills (Aldrich and Meyer, 2015). Therefore, we hypothesize that social capital plays an important role in determining what community assets are preferred by members of a marginalized community for responding and recovering from a disaster.

2. Literature review

Social capital is a multiplicitous term, captured in Nakagawa and Shaw's (2004) general description of social capital as "the function of mutual trust, social networks of both individuals and groups, and social norms". Classically, Bourdieu (1986) proposed the concept to capture the utility of social connections for generating economic capital, while scholars such as Coleman (1988) and Putnam (1995) expand upon the concept to highlight the social structures they argue are constitutive elements of social capital. Li (2004) further clarifies social capital to be a "group-based resource derived from social relations", arguing that the context of these social relations, including the forms of capital accessible to members of these networks, greatly impacts the embodied social capital. Scholars have long called for precision in the usage of the concept to ensure its continued utility (Portes, 1998; Christoforou, 2013) including in more recent applications to disaster contexts (Uekusa, 2020).

Accordingly, this research investigates structural forms of social capital to elucidate "the nature of the state—society relations in which these individuals and their relationships are inherently embedded" (Szreter and Woolcock, 2004, p. 661). Three key forms have been identified: bonding, bridging and linking social capital (Szreter and Woolcock, 2004; Aldrich, 2017). Bonding social capital refers to relations among individuals with similar backgrounds (and social identity), bridging social capital refers to relations among individuals with differences in community standing and linking social capital are relations operating across "explicit, formal or institutionalized power or authority gradients in society" (Szreter and Woolcock, 2004, p. 661). Unless otherwise specified, social capital is hereafter used to refer to structural forms of social relations, as opposed to important but distinct concepts like trust and social norms which are the focus of other social capital research.

A growing body of literature suggests that each form of social capital may have differential impacts on how communities experience disasters. In particular, marginalized populations' response to disaster recovery is uniquely tied to social capital because of shared histories and close ties (Quinn *et al.*, 2020; VanLandingham, 2017). For example, Afghani, Iraqi and Somalian refugees who were impacted by the Canterbury earthquakes in New Zealand had stronger intra-community ties as a result of the challenges they had previously confronted in relocating from often dangerous and traumatizing environments (Uekusa and Matthewman, 2017). However, there may be limitations to the resilience supported by bonding social capital for marginalized individuals. Unaddressed mental health issues for

some refugees were exacerbated by the Canterbury earthquakes, highlighting that bonding social capital alone may not be able to overcome vulnerabilities and past traumatic experiences (Uekusa and Matthewman, 2017).

In contrast, bridging social capital may improve long-term disaster recovery outcomes (Hawkins and Maurer, 2010; Aldrich and Meyer, 2015). For example, in the aftermath of Hurricane Katrina, bridging social capital possessed by Vietnamese Americans enabled the utilization of external charitable resources and the development of commercial recovery plans that helped predominantly Vietnamese American neighborhoods recover quicker than similarly socioeconomically positioned minority groups who lacked bridging social capital (VanLandingham, 2017). Similarly, linking social capital provides greater access to resources after a disaster. For example, after the Indian Ocean Tsunami, families with linking social capital spent less time in shelters and had more resources for recovery as compared to other villages that did not have such connections (Aldrich, 2012). Examples of communities coming together in unique ways including by utilizing linking capital to respond to disasters have been described by scholars as “disaster communitas” (Matthewman and Uekusa, 2021), or “extraordinary communities” (Solnit, 2009).

Together, these findings suggest that forms of social capital are not created equally when it comes to resilience and disaster recovery. Bridging and linking social capital may increase adaptive capacity by promoting coordination among groups that can help distribute aid after disasters (Andrew *et al.*, 2015; Aldrich, 2012). In contrast, for communities that developed more bonding social capital than bridging social capital, this lack of bridging ties to external groups limited their ability to access timely aid (Aldrich *et al.*, 2018). Uekusa suggests that marginalized groups may favor bonding social capital as “safer” connections among individuals with similar ethnic backgrounds while avoiding bridging social capital due to lack of a common language or fear of racial discrimination (Uekusa, 2020). This raises the concern that disaster impacts may exceed the ability of marginalized individuals who are primarily utilizing bonding capital for their daily survival (Uekusa, 2020) and necessitate reliance on additional systems of support – which can best be accessed through bridging and linking social capital (Aldrich *et al.*, 2018). Thus, this study aims to identify how different forms of social capital align with preferred community assets for a marginalized community vulnerable to hazards.

3. Background

This study is situated in Lincoln County, Oregon. Oregon is located along the Cascadia Subduction Zone (CSZ) fault which has a predicted 37% chance of a magnitude 7.1+ earthquake and subsequent tsunami occurring in the next 50 years (OSSPAC, 2013). The fault’s rupturing, a “Cascadia Event”, will cause thousands of deaths, widespread structural damage and significant economic loss (OSSPAC, 2013). Within Lincoln County and throughout the Oregon coast, Latinx residents comprise approximately 10% of the population and are the fastest growing demographic (United States Census Bureau, 2021). This Latinx community is primarily comprised of immigrants with lower incomes than average across the state (Oregon Community Foundation, 2016) and are heavily employed in resource extractive and service sector industries that are predominate in Oregon Coastal communities (Procino, 2022). Many of these jobs are also positioned in high-risk inundation zones. Therefore, it is crucial to proactively address the vulnerability of Latinx coastal communities to natural hazards.

Previous research in the same coastal region found that Latinx residents preferred community assets that provided services *and* fostered a greater sense of community in comparison to government-defined critical facilities such as police or fire stations (Stanton and Tilt, 2023). As noted in this study, these values are likely created through actions that

Latinx community members perform while at preferred community locations, such as treating each other with care and sharing the responsibility for cooking and cleaning (Stanton and Tilt, 2023). This study provides added dimensionality by exploring how preferred community assets help generate and sustain different forms of social capital.

4. Methods

Participants were recruited with support from community leaders who worked for county extension services, resource nonprofits and cultural organizations. Both active and passive methods were utilized through the distribution of flyers by community organizations and in-person recruitment by researchers through attendance at cultural events and other public gatherings. This community-based participatory research approach (CBPR) helped build rapport and trust (McCracken, 2020) while reaching a broader pool of possible participants (Negrin *et al.*, 2022) from a population that is often underrepresented or excluded from research.

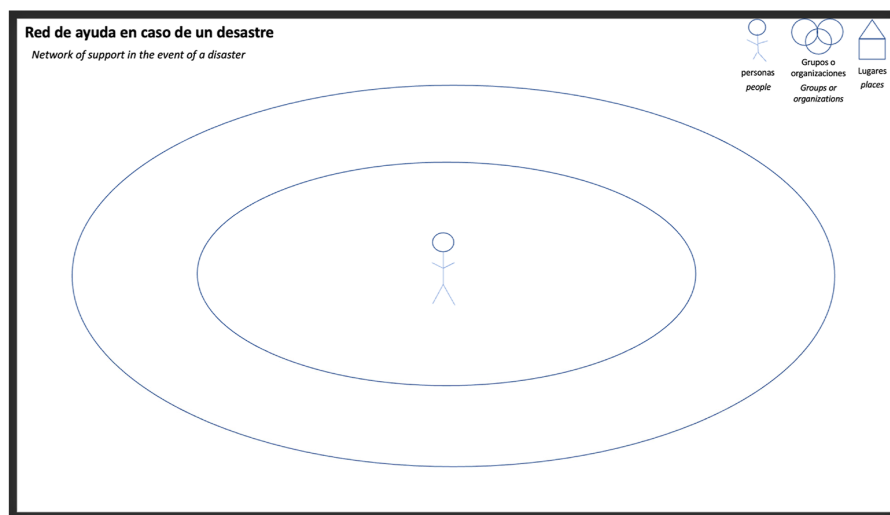
We employed a focus group approach as the primary instrument for data collection. Structuring focus groups to include members of similar cultural identities and marginality is effective for helping participants to feel more comfortable articulating their ideas (Liamputtong, 2011; Peek and Fothergill, 2009). In total, four focus groups were held and conducted in Spanish. At the request of a community leader (and co-author) one focus group also included a Mam interpreter for Meso-American Indigenous immigrants primarily from Guatemala, a sub-group of interest among the Latinx community in Lincoln County.

The semi-structured focus group protocol included questions about community perceptions, what places they valued and why— including for daily needs, and what kinds of relationships or friendships were connected with these locations (Blockstein and Tilt, 2023). The focus and phrasing of these questions were based upon insights gained through informal conversations with potential participants at community events and direct conversations with community leaders, who reviewed and commented on all research protocols. Incorporating community members as co-researchers centers their lived experiences in the CBPR process with the goal of creating “new knowledge that positively impacts the community at the center of the study” (McCracken, 2020, p. 3). Informational handouts on hazard preparedness and financial compensation were also provided to all participants.

The primary limitation of this in-depth qualitative case study was the inability to reach all members of the targeted population. The 59 community members represented within the four focus groups should not be considered as representative of the entire Latinx community in Lincoln County. However, the authors contend that use of CBPR provides value through a more contextually based, co-produced approach that is more equipped to investigate the underlying constructs around preferred community assets and forms of social capital. Future research can apply these protocols (Blockstein and Tilt, 2023) to additional contexts to test the generalizability of the knowledge and insights that were generated in this study.

4.1 Conceptual mapping exercise

To further understand how individual participants utilized social networks during and after a disaster event we developed a conceptual mapping exercise that included individual worksheets containing three concentric circles. Participants were asked to consider where they would turn for support during the multi-week period after a Cascadia earthquake/tsunami in which little to no government assistance will be available. Participants were then instructed to place those people, organizations and places that they would immediately or first turn to in the innermost circle and continue outward as applicable (see Figure 1).



Source(s): Authors' own work

Figure 1.
Social circles
worksheet for Cascadia
event scenario

Demographic information was collected for each participant. All focus groups were audio recorded with consent by the participants. Approval of the focus group protocol and involvement of human participants was obtained from the Institutional Review Board.

5. Analysis

A mixed-deductive/inductive coding approach (Bernard, 2012) was utilized to analyze the focus group transcriptions to identify connections between community assets and forms of social capital. For this coding process, social capital was differentiated into three forms using definitions adapted from Aldrich (2017) with bonding social capital defined as “connections between close friends, family, and the same ethnic group or similarly economic positioned individuals”; bridging social capital defined as: “connections to individuals that differ in ethnicity or socioeconomic status” and linking social capital defined as: “vertical connections to individuals with access to sources of power and agency within a community”. These definitions utilize ethnicity and socioeconomic status as the primary differentiator between bonding and bridging social capital based on regional census data (United States Census Bureau, 2021, 2023) and insight from community leaders on local social groupings. Past research has suggested ethnic or class ties as an appropriate starting point (Aldrich *et al.*, 2018). We coded each instance in which a form of social capital was discussed in association with a community asset. Results were reviewed for each focus group individually and then collectively to understand any differences or similarities between how each group connected forms of social capital with community assets.

From each conceptual mapping sheet completed, every instance where participants wrote down a person, group or organization or place was counted beginning with those written in the innermost circle and continuing for the secondary and outermost circles. These counts were tabulated per focus group and overall. Any group, organization or place identified by at least two of the four focus groups and listed on at least 25% of the individual conceptual maps in the innermost or secondary circle was classified as a “preferred community asset”.

Aligning with CBPR principles, community leaders involved with the focus groups were used to interpret or clarify areas of confusion from the data, including verifying translation and interpretation of quotes and answers for participant demographic information. The results of qualitative coding and conceptual mapping analysis were presented to community leaders for validation and the feedback received is reflected in the results presented below.

6. Results

6.1 Participant demographics

In total, fifty-nine community members attended the four focus groups. As Table 1 illustrates, the focus group participants differ dramatically from Lincoln County as a whole, particularly for birthplace, household size, education and income. Almost all participants were born outside the U.S. and lived in households that were on average twice the size of the county overall. Both educational levels and income levels are notably lower than the county averages.

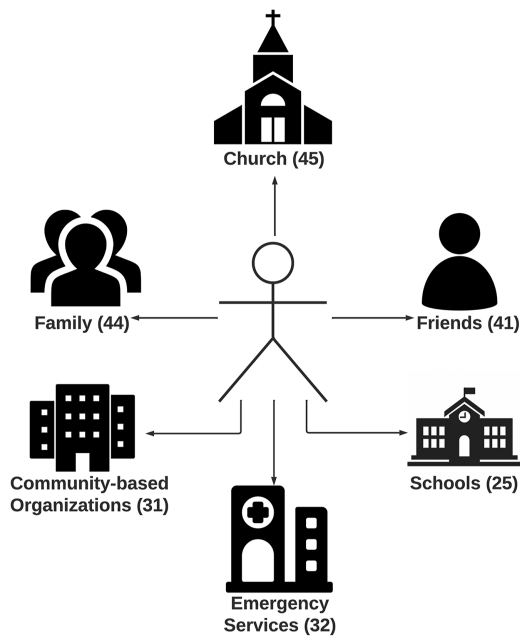
6.2 Conceptual mapping

The results of the conceptual mapping exercise (Figure 2) suggest that family and friends, an example of bonding social capital, were the most important relations that Latinx community members would turn to in the recovery period after a Cascadia event. Additionally, we found that Community-Based Organizations (CBOs), churches, emergency services (e.g. first responders, fire/police stations, hospitals) and schools were considered “preferred community assets” with churches being the most common community assets where participants would turn for support in the first two circles, followed by emergency services, CBOs and schools (Figure 2). These preferred community assets were distributed between the innermost and secondary circles with 39 mentions of family and 39 mentions of friends in the innermost circle and 5 mentions of family and 2 mentions of friends in the secondary circle (Figure 3). Churches were almost evenly split between the innermost and secondary circle (22 vs 23 mentions) as were CBOs with 16 innermost vs 15 secondary. Schools were mentioned less frequently in the innermost (10 vs 15) while emergency services were almost entirely mentioned in the secondary circle (6 vs 26) (Figure 3).

Table 1.
Focus group
participant
demographics

	Focus group participants (n = 59)	Lincoln County, OR*
% Female	76%	51.5%
Average Household Size	4.7	2.23
Average years lived on Coast	13.63	—
% Foreign-born	98%	4.7%
% Non-English Primary Language	98%	7.2%
<i>Education Level</i>		
% High School Graduate	44%	92.7%
% University Graduate	6%	28.6%
No response	8%	—
<i>Income level</i>		Median: \$54,961
<20k	33%	
20-40k	42%	
40-60k	13%	
60k+	12%	

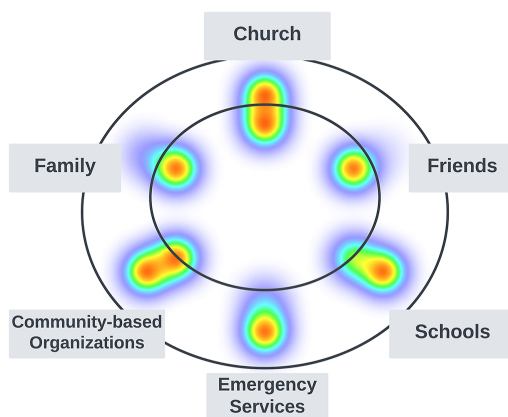
Note(s): *Lincoln County demographics from 2023 US Census (United States Census Bureau, 2023)
Source(s): Authors’ own work



Note(s): Total counts of preferred community assets identified by at least 2 of the 4 focus groups and listed by > 25% of participants for post-Cascadia event conceptual mapping scenario for all FGs ($n = 59$)

Source(s): Authors' own work

Figure 2.
Preferred community
assets



Note(s): The dark red areas represent more frequent mentions of a specific community asset type

Source(s): Map created by Cascadia Visualizations LLC

Figure 3.
Heatmap visualization
of preferred
community assets
among all participants

Community asset	Bonding social capital connections between close friends, family and the same ethnic group or socioeconomic status	Bridging social capital connections to individuals that differ in ethnicity or socioeconomic status	Linking social capital vertical connections to individuals with access to sources of power and agency within a community
<i>Employment</i>			
The job or occupation held by a person that provides economic resources Frequency = 53	<i>Through work, we work together and get to know each other and so we build trust and help one another</i> Frequency = 6	Not identified	Not identified
<i>Community-Based Organizations</i>			
A private, nonprofit organization that is representative of a community and provides access to valuable information and resources Frequency = 39	<i>Yes, at Support Center there is Ms. S, she told me to wait for her and she helped me. She helps us all a lot, we are very grateful for her</i> Frequency = 2	Not identified	<i>After they created [Building Community] they gave us more information and we got more help, because we needed lots of help with our [immigration] papers and reading them</i> Frequency = 20
<i>Schools</i>			
Institutions of learning present in a community Frequency = 31	<i>I think another advantage of living in a small place, is also that one makes contact with teachers and if there are more families, they will already know who they are</i> Frequency = 3	<i>It was through my daughter's school that I was connected with English classes. I met Ms. F and I got to know her and she reaches out and called me to go</i> Frequency = 5	<i>I think the only way for information to reach us, as parents, is through school, because everyone checks children's papers when the information comes to them</i> Frequency = 6
<i>Churches</i>			
Faith-based organizations that serve as a place of gathering and worship Frequency = 14	<i>Yes, at the churches we hold parties and events, so we go and there we get to know each other. Through the church is how we meet many friends</i> Frequency = 6	<i>We are quite involved with the Anglo-American church as well. For example, on Saturday we will have a barbeque and there we all participate</i> Frequency = 2	<i>For any help a person needs – if there is an emergency or they are sick, if they can't pay their bills, the churches will help you</i> Frequency = 4

Table 2.

Identified community assets and associated social capital forms

Note(s): Table 2 shows the types of community assets mentioned in all focus groups and a representative quote for each form of social capital associated with these assets. Frequency was calculated as each individual instance the asset (first column) or asset associated with a type of social capital was mentioned (next three columns)

Source(s): Authors' own work

The most frequently discussed locations associated with social capital in this study included places of employment, CBOs, schools and churches.

Our results show that places discussed as being important to daily needs *and* disaster recovery contexts are somewhat different than the places highlighted through the conceptual mapping activity that *only* focused on the disaster recovery context (Table 2 and Figure 1). Only one community asset, CBOs was mentioned as being important for both daily needs and in disaster contexts. The following section discusses why some community assets are valued and utilized in day-to-day life and others in the event of disasters by investigating their associated forms of social capital.

6.3.1 Employment. Employment was discussed among all focus groups as a primary shaper of participants' lives and a source of bonding social capital because most of the relationships within the Latinx community revolve around work. This is likely the result of recruitment through worker visa programs leading to the overrepresentation of Latinx in certain industries (primarily resource-extraction and service-sector) nationally, including seafood processing in Oregon's coastal regions (Bruno, 2023). These employment-centered relationships were recognized as a critical source of support:

I think that yes, we [Latinos] communicate, we communicate in the jobs and develop friendships . . . and if we have a problem someone says look, there is help here.

Through the development of these social networks, Latinx community members became aware of community resources, such as those offered by non-profit organizations or government agencies. Connections were also made to trusted employees from those resource groups who were members of or had experience working with the Latinx community, suggesting that strong bonding social capital may facilitate the development of linking social capital at other assets.

Furthermore, discussions after the conceptual mapping activity revealed that many of the friends identified (Figure 2) were connections through jobs. Yet, the workplaces themselves were rarely mentioned as a valued locations for day-to-day support (Figure 2), indicating that while Latinx community members may turn to coworkers in times of need, they would not turn to their employers or places of employment. This has relevance to how Latinx community members are preparing for a Cascadia disaster event. While some participants stated that their workplace provided tsunami evacuation information, the majority did not report receiving any training at their workplaces, even for ones located in or near tsunami inundation zones. Some participants even reported receiving misinformation, with employers telling them that a tsunami was not something to worry about because it was "never going to happen". There was also a sense among focus group participants that they did not feel valued by their employers, indicating a lack of bridging or linking social capital. For example, one woman shared how she felt pressured to work during the 2020 Labor Day fires that impacted the region.

During the fire they were asking me to go to work there and I said no because my children were alone with me. They got upset but if the road closed how was I going to get back to my children? It was in this time that I learned that at work you are not indispensable to them, because they can easily replace you.

This sentiment was shared by participants in other focus groups who likewise did not feel valued by their employers, suggesting that places of employment may not be valued community assets due to the absence of bridging and/or linking social capital. Yet, surprisingly, a frequent suggestion from participants in all focus groups was to hold disaster preparedness trainings at their workplaces as an effective way of passing along information.

6.3.2 Community-Based Organizations (CBOs). CBOs were associated with both bonding and linking social capital (Table 2). All focus groups identified CBOs as being

sources of linking social capital via relationships with employees (Table 2). This may be due to nearly all focus group participants speaking a language besides English at home (Table 1), thus underscoring the value of CBOs with bilingual employees to help Latinx residents navigate systems they may be unfamiliar with, and which are in another language. However, only three CBOs [1] were mentioned by participants: “Support Center”, “Building Community” and “Latinx Center”. These organizations provide services such as interpretation and assistance with applications and legal forms, multicultural referrals for community services and organize community gatherings for Latinx residents. The most prominent of them, Support Center has a 30-year history in the community and was frequently mentioned as a key starting point for focus group participants looking for support:

I also went [and] when I went to inform myself, in the Support Center, there they oriented me and they helped me.

The term “orient” was used by multiple community members to describe their relationship with the Support Center. For newer community members, they utilized CBOs to complete immigration papers as they assimilated into the community. For more established community members, CBOs helped them navigate legal or medical services. The newest CBO, Building Community, is highly utilized by the Mam community members that faced additional marginalization due to language barriers (75% or 9 out of 12 participants primarily spoke their local indigenous language, Mam, instead of Spanish). These participants, who had lived on the coast for the shortest average time period of any focus group (5.83 years), reported already being well-connected with resources and information through this CBO.

When participants discussed specific examples of receiving assistance at CBOs they focused on specific employees at these organizations and the help they had received from them. These employees were identified as also being part of the Latinx community, suggesting the social capital embodied in these relationships aligns with both bonding and linking.

Furthermore, CBOs were also frequently mentioned assets that would be critical in times of disaster as demonstrated by the COVID-19 pandemic.

Yes, they helped organize, for example, if a person got sick, the hospital called the Support Center to ask if they needed help. Then, they were like intermediaries in this case.

Here, the CBO is serving as a link between hospitals and Latinx community members, demonstrating the importance of this CBO for providing access to critical resources. Other focus group participants shared how CBO employees helped them with financial assistance and meals when they were quarantined and unable to work, demonstrating the utilization of a key source of linking social capital for this community in times of disaster. This aligns with the results of conceptual mapping which identify CBOs as a valued community asset for after a disaster (Figure 2).

6.3.3 Schools. Schools were discussed in all focus groups as a valuable location for being connected with resources in the community. Some information was passed from children onto their parents, but in other instances school employees directly connected parents with relevant support. One participant shared that she first learned about English for adult learner classes, a resource valued by many study participants, through her child’s teacher. Where strong relationships existed with school staff, participants reported more personal involvement in helping them access community resources. In some cases, these were identified as Latinx school employees while others were not specified. Because these are generally higher earning jobs, these are best classified as bridging relationships to individuals with greater economic capital. However, examples of strong relationships were

most frequently with Latinx school employees, suggesting that shared group identity is relevant. As previously mentioned, the need to navigate language barriers likely also influences which relationships are fostered. Overall, schools were identified as being a source of all forms of social capital with some potential overlap (Table 1).

Schools were also mentioned as a key location for increasing earthquake and tsunami risk and preparedness through information passed on from children who participated in drills at schools. Focus group participants expressed a desire to participate in simulations for earthquakes and tsunamis to increase their own preparedness. This suggests an avenue for operationalizing the social capital already associated with schools for increasing disaster resilience, reinforced by schools being frequently mentioned as a source of support after a Cascadia event (Figure 2).

6.3.4 Churches. Churches were a community asset associated with bonding, bridging *and* linking social capital. Focus groups participants from the Mam-speaking Indigenous community discussed self-organizing to create their own church, thus deepening their bonding social capital.

We have made a church that is just among us who speak Mam. So, we ourselves, if we see a needy person or a person with an emergency, then yes, that help is granted.

However, by intentionally excluding non-Mam speakers, participants are limiting opportunities to build bridging and linking capital within this environment.

Churches were also associated with bridging social capital, but for only one focus group (Table 2). This bridging capital was built by having a shared community of faith that broadened their connections with community residents to include non-Latinx community members through a network of local and regional church events. For example, one church connected support from non-Latinx to Latinx churchgoers during the pandemic.

I saw that bags with food and masks were already there at the door. And it filled me with joy because they as Americans and also sisters who come here, they helped us, thank God. We received help from Sister A and Sister M. So, when I arrived, I already saw the union that was there in my community with my neighbors.

Similarly, money raised by wealthier non-Latinx church members in the fundraiser was distributed to Latinx community members who were unable to work and provide for their families. In these ways, the church served as a means to bridge groups with differing financial resources and led focus group participants to acknowledge and appreciate the unity existing among their broader community. Additional focus group participants discussed how churches help to link them to other organizations or resources, for example by collaborating with community organizations and health agencies to organize vaccination clinics at the church.

However, it should be noted that churches were not universally seen as sources of social capital across all focus groups for daily needs. Two focus groups perceived that the Latinx community was disconnected and did not take advantage of opportunities to build closer relationships including actively participating in church events. Yet, results of the conceptual mapping exercises show that these same participants would turn to churches as frequently as emergency services, schools and CBOs. Thus, while churches were not seen as spaces where participants of this group would regularly spend time, in disaster contexts they were confident that they could find help there.

6.3.5 Emergency services. Conceptual mapping results illustrate the importance of emergency services (Figure 2), but only in times of disasters and with some hesitancy. One focus group revealed that they would go to emergency services but would prefer to go to CBOs if possible. However, these perceptions may be changing. During the 2020 Labor Day fires, firefighters went door to door to notify residents who needed to evacuate, and participants expressed that they knew from experience that firefighters could serve a key

role in disaster scenarios. Additionally, some participants had attended past trainings hosted by first responders which helped them begin to develop personal relationships, particularly with Latinx staff. Participants reported they were more likely to utilize the services of first responders as a result of this social capital.

7. Discussion

Examining the results of the conceptual mapping exercise together with qualitative coding of focus group discussions suggests a clear association between preferred community assets and multiple forms of social capital. Research on immigrant communities has suggested that bonding capital is frequently drawn upon when navigating host countries to supplement their absence of other resources (Uekusa, 2019). For Latinx community members in this study, the preference for specifically using bonding social capital via family and friends (Figure 2) during disasters aligns with research by Trujillo-Pagán (2012), who identified that Latinx impacted by Hurricane Katrina utilized more informal networks because of the discriminatory practices that prevented them from turning to government agencies for support. In this case study, the prevalence of bonding social capital aligns with such examples to suggest that connections among close friends, family or the same ethnic group are critical for both meeting day-to-day needs and in the event of disasters by facilitating access to necessary resources.

Bridging social capital was less frequently identified for the Latinx coastal participants in this study. For example, Mam-speaking Indigenous participants had intentionally closed off outsiders by creating their own church that was not affiliated with any formal institution, thus aligning with Uekusa's suggestion that immigrants may selectively develop forms of social capital to deal with daily marginalization rather than preparation for disasters (Uekusa, 2020; see also: Hunter, 2016; Bottrell, 2009). Past research on communities with primarily bonding social capital found that disasters may increase poverty levels if local resources are consumed during recovery and not supplemented by outside aid available through bridging or linking social capital (Smiley *et al.*, 2018).

By focusing on how and where social capital is developed and what that means for hazard vulnerability, we can begin to move away from problematic neoliberalizations of resilience which places the responsibility to be more resilient to disasters with those least able to change their situation without examining the broader institutional and cultural structures in which they are embedded (Blake *et al.*, 2017). Critiques regarding efforts to build social capital as a means to increase community resilience point out that many of these efforts puts the onus on marginalized populations to build relationships beyond their own close networks (Uekusa, 2020). Some marginalized communities may prefer to avoid building connections outside their networks in an effort to avoid scrutiny over documentation status, cultural norms or other reasons (Brighenti, 2007; Villegas, 2010). For undocumented immigrants, a category that includes participants in this study, this social calculus may lead them to the conclusion that making connections to others who are unlike themselves is best avoided. Social capital may also be negatively impacted by language abilities, or what has been termed "linguistic capital", including for emergent networks after disasters (Uekusa, 2019).

Preferred community assets, particularly CBOs, identified in this study were valued because they provided access to individuals with greater resources and support while being staffed by members of their own community, playing a dual role as source of both bonding and linking social capital. Community members first made personal connections with Latinx employees at these CBOs—relationships that made community members feel valued—and then return to these groups for resources, suggesting that bonding social capital mediates linking social capital. This was true to a lesser degree for schools as well. In other words, marginalized groups may only utilize community assets as sources of bridging or linking

social capital *after* they have established a trusted relationship with an individual they have a shared identity with. In this context, affinitive trust, or trust based on shared values between persons, may outweigh rational trust, or trust based on assessments of likely outcomes based on cost benefit analysis (Stern and Baird, 2015).

Additional research on socially vulnerable groups has found that alternative forms of support are often utilized in disasters (Pescaroli and Alexander, 2018; Thiri, 2022), suggesting the need for alternate conceptions of social capital that also incorporate the relational components through which trust is built. This is critical as marginalized groups may be forced to utilize non-preferred community assets during a disaster event or choose to altogether avoid accessing critical services for fear of discrimination (Fussell *et al.*, 2018; Fox *et al.*, 2023). The preference among some community members to primarily turn to churches after a disaster aligns with scholars who have suggested that social capital is operationalized in unique ways during disasters (Uekusa *et al.*, 2022).

Understanding social capital as arising from social relations themselves embedded in state-society relationships (Szreter and Woolcock, 2004), this in-depth case study both elucidates the relationship between community assets and forms of structural social capital while also challenging our understanding of the nature of social capital itself. We highlight the need for further research into the unique ways which marginalized communities develop and operationalize social capital, including in relation to valued community assets.

8. Conclusions

This study aimed to identify which community assets were preferred by Latinx community members in Lincoln County, OR, and what forms of social capital were associated with these valued locations. Through analysis of focus group discussions and conceptual mapping exercises, preferred community assets of CBOs, schools, churches and emergency services were identified. We found that Latinx community members utilize these resources primarily for linking and bonding social capital which may provide resiliency in times of disaster. Bridging social capital, which can be a critical source of adaptive capacity during disasters, was less frequently identified.

Placing our findings in a policy context, we recommend that government agencies proactively incorporate preferred community assets and associated social capital into their disaster planning processes, for example as sites for emergency shelters or to distribute aid. Our findings identified that key individuals at these asset locations embody multiple forms of social capital, these leaders should be consulted extensively and be credited with co-producing new knowledge through co-authorship and other forms of recognition as done here. Additionally, the relationships formed through working with these community leaders have created opportunities to incorporate the study findings. For example, emergency preparedness training workshops were recently conducted in Spanish at valued community locations. The workshops offered resource to address identified gaps in earthquake and tsunami preparedness and included local emergency management officials as invited guests based on the networks and recommendations stemming from this study.

The results of this study demonstrate that identifying how assets may be utilized during a disaster, and which assets are particularly precarious due to the overly strong reliance that specific marginalized groups place in them, can furthermore help prioritize the protection of these assets to increase community disaster resilience.

Notes

1. Pseudonyms for CBOs are used.

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