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The Role of Trust in Neighborhood Recovery: Examinations from New Orleans' Recovery from Hurricane Katrina

David Traweek Maddox
Louisiana State University and Agricultural and Mechanical College, dmaddo1@lsu.edu

THE ROLE OF TRUST IN NEIGHBORHOOD RECOVERY:
EXAMINATIONS FROM NEW ORLEANS' RECOVERY
FROM HURRICANE KATRINA

A Dissertation

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ABSTRACT

This dissertation describes and helps delineate the circumstances under which different kinds of trust influenced neighborhood recovery in the Greater New Orleans area after Hurricane Katrina. These analyses provide insights into the effects of neighborhood levels of social capital, organizational capacity, particularized racial trust and generalized trust on the mean level of household recovery in Orleans and St. Bernard Parish neighborhoods. Results suggest that neighborhood organizational capacity and several measures of neighborhood social capital had direct and positive effects on neighborhood recovery and that the effects of generalized trust on neighborhood recovery are not fixed and that neighborhood organizational capacity moderates the extent to which generalized trust influences neighborhood recovery. The interactional effects of organizational capacity and generalized trust reflect the compensatory nature of social resources. The interaction reveals that neighborhood organizational capacity matters less among neighborhoods with high generalized trust and matters more among neighborhoods with low generalized trust. In this way, high organizational capacity can compensate for low generalized trust in the process of neighborhood recovery. These findings suggest how cooperative relations and other potentially beneficial structures of social relations can be supported either through organizational capacity or through trust. Moreover, these findings suggest that of the two methods for achieving effective cooperation, organizational capacity may be relatively more advantageous than interpersonal trust for hurricane recovery outcomes.

CHAPTER 1. INTRODUCTION

This research examines how neighborhood level trust contributed to the recovery of New Orleans neighborhoods from Hurricane Katrina and how the importance of various kinds of neighborhood trust depended upon neighborhood characteristics like affluence or disadvantage and organizational capacity.

In this dissertation, I describe the different kinds of trust that influenced neighborhood recovery. I argue that, while trust was often an important aspect of recovery, neighborhood context influenced whether or not particular kinds of trust were beneficial for neighborhood recovery.

Previous literature has suggested that trust underlies effective social organization and social capital (Coleman 1988, Fukuyama 1995, Sampson et al. 1999, Putnam 2000, Cook 2005, Norris et al. 2008). Trust is typically conceptualized as a coequal component of social capital, but I will argue that it not only had direct effects on recovery, but that trust also interacted with and was moderated by the effects of other components of economic and social resources for neighborhood recovery. "Moderation" here refers to the variable effects of trust on neighborhood recovery, given the neighborhood context.

For example, in certain neighborhood contexts, the effects of trust on recovery were moderated by neighborhood organizational capacity. When neighborhood organizational capacity was higher, it played an important role in recovery, but where organizational capacity was lower, the right kinds of trust could have helped neighborhoods compensate.

Whether or not trust in a neighborhood provided recovery related benefits depended largely upon neighborhood contextual factors like levels of education, affluence and

organizational capacity. The effects of different kinds of trust were generally *less important* among neighborhoods with higher organizational capacity and higher status residents, and *more important* among neighborhoods with lower organizational capacity and lower status residents.

I also argue that different kinds of neighborhood trust will act either as catalyst or as retardant for neighborhood recovery given how neighborhood residents tend to maintain structures of social relations in their daily lives. Better resourced, higher organizational capacity neighborhoods tended to rely more on their institutional integration for the maintenance of daily life.[1] For them, neighborhood levels of confidence in institutionalized structures were more important for recovery outcomes. Neighborhoods with fewer resources and lower levels of organizational capacity tended to rely more on face to face interactions for the maintenance of daily life. Among these neighborhoods, levels of interpersonal kinds of trust were more important for neighborhood recovery outcomes.[2] To clarify, I am suggesting that after controlling for demographic features and levels of storm damage, there are two key features of neighborhood context that determined how trust influenced neighborhood recovery in post-Katrina New Orleans:

1) levels of organizational capacity, and
2) the extent of other resources for recovery.

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[1] Institutional integration will be discussed in the literature review; for now it is only important to understand that relying more on institutional integration than on face to face interaction means that people tend to rely more on their relationships with formal institutions like the legal system, or the banking system than on interpersonal relationships for the maintenance of daily life.

[2] The meaning of interpersonal trust in this sense should not be confused with Rotter's (1980) treatment. Rotters treatment is most closely identified with the concept of "generalized trust." While the meaning I suggest is similar to Rotter's (1980), for the time being I mean only to provide two broad categories of trust. Interpersonal trust based how people feel about unofficial social agents, like neighbors, strangers, and friends. And institutional trust based on how people feel about the agents and agencies associated with modern institutions.

Trust is believed by many to be centrally important in solving problems which require collective action. The term "trust" has been used to refer to and inform a number of concepts related to problems of collective action including cooperation, obligations, expectations, confidence, faith, solidarity and social capital. Arrow (1974) and Luhmann (1979) both suggested that trust serves as an important "lubricant" for society. More recent work has suggested that trust promotes economic development (Fukuyama 1995, Woolcock 1998) and democratic development (Putnam 1993, Woolcock 1998), that it reduces transaction costs (Coleman 1988, Putnam 2000), encourages mutually beneficial cooperation (Cook et al. 2005) and improves disaster recovery outcomes (Nakagawa and Shaw 2004, Sherrieb et al. 2010, Aldrich 2010).

The idea that trust encourages cooperation in societies is not a new one; Alexis de Tocqueville (1835:2004) described mutually beneficial cooperation in terms of "self interest rightly understood". For Tocqueville, the idea of "self interest rightly understood" depicts a structure of social relations resembling a decentralized democratic organization wherein a sense of community ownership engenders the vested interest of all members in the wellbeing of one another and in turn the wellbeing of the community.

The debate over the centrality of trust remains relevant in discussions of solving issues of collective action (Putnam 1993, Fukuyama 1995, Woolcock 1998, Uphoff 2000, Uslaner 2002, Sampson, Morenoff and Gannon-Rowley 2002, Cook 2005, Uslaner and Conley 2003, Sampson and Graif 2009, Sherrieb et al. 2010). Neighborhood recovery from Hurricane Katrina presented numerous opportunities for collective action and it is likely that levels of neighborhood trust

influenced recovery outcomes. But an important question remains: "how does trust influence recovery and under what circumstances will trust influence recovery?"

Evidence suggests that trust promotes solidarity and cohesion, which in turn promote civic engagement (Putnam 1995; Uslaner and Conley 2003) and other potential social resources which benefit recovery. Aldrich (2010) finds that social capital – a key component of which he assumes to be trust – is "the strongest and most robust predictor of population recovery after catastrophe." That said, his assertions about social capital and assumptions around trust are indicative of most other disaster recovery research. The effects of trust are either assumed (not measured) or left unexplored. When trust is not measured, its effects are assumed to be captured within approximate measures of social capital (e.g. Sherrieb et al. 2010, Aldrich 2010 & 2012). When trust is actually measured, it is typically operationalized as a coequal component of neighborhood social capital (e.g. Moore et al. 2004, Benight 2004, Haines, Hurlbert and Beggs 1996); meaning that trust is almost always included alongside other indicators of social capital like average network size and the number of social organizations in an area. These approaches do not adequately address the complex role of trust in recovery.

1.1. THESIS STATEMENT

My argument focuses on the relationship between neighborhood social organization and trust. I argue that the importance of different types of trust for neighborhood recovery depended on how neighborhood residents tended to organize themselves for the maintenance of daily life. The term "neighborhood context" is often used to describe the set of features that define a neighborhood, including those that characterize neighborhood social organization (Sewell and Armer 1966, Sampson 1988, Sampson and Bartusch 1998, Sampson and Graif 2009). The mode

of social organization utilized by neighborhood residents for the maintenance of everyday life can be characterized as being governed more by face to face interactions or by formal institutional integration.

A neighborhood's organizational capacity, or their ability to effectively delegate responsibility and utilize formal institutional structures, is closely associated with its mode of social organization. Neighborhoods governed more by formal institutional integration will be more likely to possess higher organizational capacity. Organizational capacity is another key component of neighborhood context, and in my model this capacity is a reflection of the efficacy of neighborhood organizations and neighborhood leadership. The relationships between different kinds and levels of neighborhood trust and the mode of neighborhood social organization are complex and I will spend the majority of my effort laying out how these relationships work. Generally, where organizational capacity was high, trust will matter less for neighborhood recovery and where organizational capacity was low, trust will matter more for neighborhood recovery.

In summary, my Thesis Statement has two parts: (1) different forms of trust will be more or less important for neighborhood recovery, given neighborhood contextual factors including whether or not neighborhoods had the financial resources to recover; (2) the degree to which having high or low levels of different forms of neighborhood trust will be important for neighborhood recovery depends upon a neighborhood's level of organizational capacity.

Because of its significant overlap with the concept of trust, influences from social capital will also be addressed within this research. My approach to the concept of social capital is consistent with current thinking around the various components of social capital believed to be

relevant for neighborhood recovery. Sherrieb et al. (2010) provide an instructive outline of the concept in their study identifying and validating indicators of disaster resilience using population-level data. Sherrieb et al. (2010) appeal to Uphoff (2000) who defines two categories of social capital: structural social capital (e.g. social networks) and cognitive social capital (e.g. trust). Uphoff (2000) suggests that, though structural and cognitive social capital may exist independently, they are complementary features which inform capital building processes in different ways. A major problem with much of the disaster literature is that it often fails to capture and/or distinguish between social capital's structural and cognitive components. In practice the disaster literature almost always conflates their effects by attributing equal weight to each aspect of social capital within each category of social capital.

The model I develop will show how both components – structural and cognitive - influenced neighborhood recovery. Moreover, I am suggesting that trust interacted with organizational capacity to influence neighborhood recovery within the context of other resources for recovery.

Here is an example of how the relationship works. Neighborhoods without the economic resources to recover had to rely more on social resources to recover from storm damage (Weil 2011). Social capital, in the forms of social networks, neighborhood groups and levels of participation, could help neighborhoods compensate for a lack of financial resources. In addition to, or perhaps in combination with, these social resources, neighborhoods could benefit from having high organizational capacity. Where organizational capacity was low, higher levels of the right kinds of trust could help compensate. I do not wish to suggest that high trust was not

beneficial where it was present, instead I only wish to suggest that when financial resources and organizational capacity are low, higher trust tends to matter more for recovery.

The following example further illustrates how I suggest trust and organizational capacity work in different contexts.

Take two neighborhoods, call them "A" and "B". In "A" social organization is characterized by face to face interactions, whereas "B" is characterized by extensive institutional integration. In "A" recovery will be most influenced by the level of interpersonal trust whereas in "B" recovery will be most influenced by the level of trust in institutions and institutional agents. In "A" higher *interpersonal trust* will improve recovery outcomes. In "B" higher trust and confidence in *institutions and institutional agents* will improve neighborhood recovery. This means that high interpersonal trust will help neighborhood "A" derive the most benefits from their neighborhood's potential resources for neighborhood recovery whereas high trust in institutional agents will help "B" derive the most benefits from their neighborhood's potential resources for neighborhood recovery.

The effects of interpersonal trust on neighborhood recovery are contingent on the level of neighborhood organizational capacity. The effects of different kinds of interpersonal trust will be more important among neighborhoods more governed by face to face interactions (neighborhood "A") and lower organizational capacity. There are several reasons for this. Because neighborhood "A" is not highly integrated into the formal institutions of society, they are less likely to perceive that these institutions exist for their benefit. As such, they are less likely to count on them for the maintenance of their daily lives. It is in this way that neighborhood "A" really only has interpersonal trust at their disposal. If interpersonal trust in neighborhood "A" is

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low, it will be harder for them to derive benefits from the potential social resources in their neighborhoods, such as their social networks. High interpersonal trust within neighborhood "A" will help them derive more benefits from other social resources. Within this context, there is an interaction between organizational capacity and trust wherein higher levels of trust can help compensate for lower levels of organizational capacity. The idea underlying this example is basic: where cooperation and social capital are more effective, recovery will be more effective, and effective cooperation and social capital can be based on high organizational capacity or on high trust, or on some combination of the two.

While I will not be able to test or demonstrate everything I suggest above, this example provides an overview of the conceptual framework I develop in the next chapter. The goals of this dissertation are modest. What I wish to demonstrate in this study is that the effects of trust on recovery are not absolute or fixed and that the degree to which trust matters for recovery will be moderated by levels of neighborhood organizational capacity.

Unlike most of the literature surrounding social capital in the context of disasters, I will examine neighborhood social structure alongside and apart from the affective, interpersonal and subjective orientations of neighborhood residents. To be clear, I agree with Uphoff (2000) that the cognitive and structural categories of social capital are complementary; but I am also suggesting that they complement each other in particular ways, given how people tend to organize themselves for the maintenance of everyday life. I seek to test the extent to which different kinds and degrees of trust were important for recovery within the context of other social resources.

In order to test what I have suggested, I employ both original survey data (N of 7000) which I aggregate to the level of census tract (N=187) and publicly available census tract level data. The original data were collected as part of an extensive study of recovery during the six years following Hurricane Katrina. These data are uniquely powerful because they enable an examination of the roles of trust, organizational capacity and social capital at the neighborhood level. Furthermore, these data are capable of tapping both the structural and cognitive dimensions of social capital (Uphoff 2000) and are able to do so within the context of the other major determinants of neighborhood recovery.[3]

1.2. OUTLINE OF DISSERTATION

Chapter 2 addresses the literature surrounding trust, describes how recovery has been looked at in previous studies of disaster resilience and recovery, and presents a general model for examining recovery outcomes. I begin by describing how the role of trust in previous recovery studies has either been missing or largely left unexplored and unexplained. In the cases where the role of trust is addressed, I focus on the conceptual and methodological issues I view as problematic and highlight why these approaches do not properly capture trust's complex role in recovery.

I then move on to a review of social capital and neighborhood effects literature while developing the conceptual framework I use to explain neighborhood recovery. The model will focus on recovery as a goal of collective action, similar in many respects to the goals of

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[3] Sherrieb et al. (2010) suggest that examinations of the influences of both "structural" and "cognitive aspects" of social capital provide the most complete picture of its effects on disaster resilience.

economic and democratic development. Central to this discussion will be the idea that social resources should be conceptualized as potentially beneficial structures of social relations embedded within neighborhood context.

Chapter 3 of this study describes the data and the data collection process, explains indicators and the operationalization of variables, and finally lays out two sets of hypotheses and describes tests for hypotheses. Chapter 3 also provides a description of the sample used in the analysis and details considerations in data preparation.

Chapter 4 presents the results from tests of hypotheses in two parts. Part one describes the results from tests of the direct effects of the independent variables influencing neighborhood recovery. Part two of Chapter 4 describes results of regressions using the full model established in part one for predicting neighborhood recovery, while first excluding and then including the interaction of organizational capacity and different forms of neighborhood level trust.

Chapter 5 provides a discussion of the results from Chapter 4 and addresses the limitations of this study. The chapter concludes with a summary of findings and describes implications for future research.

CHAPTER 2. RESOURCES AND NEIGHBORHOOD RECOVERY

2.1. THE ROLE OF TRUST IN RECOVERY

The current literature surrounding the role of social resources in recovery from natural disasters often treats trust as a coequal component of social capital. Alternatively, trust goes unmeasured and is merely assumed to underlie or to be reflected within indicators associated with social capital. This section provides a review of trust's treatment in the literature and points out how the growing literature on trust can contribute to understanding neighborhood recovery in New Orleans from Hurricane Katrina.   The discussion will begin with a description of what trust is and why it is important for neighborhood recovery. Then I will relate these matters to prevailing views on the role of trust in recovery.

2.1.1. Definitions of Trust

Trust has been used to refer to and inform a battery of related concepts including cooperation, obligations, expectations, confidence, faith, solidarity and social capital (Seligman 1997). These concepts illustrate that trust is often defined in terms of its functions and outcomes. The definitions most relevant to this dissertation are those geared toward the role of trust in solving problems requiring collective action.   In this respect, the simplest definitions surround general expectations about the behavior of others. Gambetta (2000) defines trust as a subjective assessment about the probability of an agent or group of agents performing a particular action. Implicit in this definition is the idea that expectations can apply to individuals and to institutions. For instance Giddens (1990) highlights the difference between trust in people and trust in "abstract systems." Trust in people "is built upon mutuality of response and involvement" whereas trust in abstract systems "provides for the security of day-to-day reliability, but its very

nature cannot supply either the mutuality or intimacy which personal trust relations offer (Giddens 1990)." Portes and Vickstrom (2011) employ a similar distinction in their critique of modern appeals to communitarianism as the remedy to society's ills. Portes and Vickstrom (2011) suggest that by emphasizing the importance of "personal trust relations" (Gidden 1990) and appealing to communitarianism, we fail to tap the power inherent in more advanced forms of solidarism. They argue that communitarianism is only one way of encouraging solidarism and that modern societies can rely more on shared values and norms instead of relying on the type of trust based on mutual acquaintanceship (also see Cook, Hardin and Levi 2007). While this is likely true, the reliance on shared values they refer to requires confidence in an "abstract system." People have to "trust" that our formal institutions will sanction those who are in violation of shared values and norms. Moreover, people have to trust that norms and shared rules will be followed by most people, most of the time. Thus the causes and effects of the trust that inheres in mutual acquaintanceship are different from those associated with extensive institutional integration (Cook, Hardin and Levi 2007).

As these studies highlight, the growing literature on trust suggests that there are different kinds of trust (Giddens 1990, Uslaner and Conley 2003, Marschall and Stolle 2004, Leigh 2006, Sampson and Graif 2009, Sturgis and Smith 2010, Smith 2010). Moreover, there is mounting evidence suggesting that different social resources may be more or less important to different neighborhood level outcomes given neighborhood or community context (Beggs, Haines and Hurlbert 1996, Uslaner and Connely 2003, Benight 2004, Marschall and Stolle 2004, Elliott et al. 2010). Kinds of trust can be broken down in different ways. Seligman (1997), Portes and Vickstrom (2011) and Giddens (1990) all broadly distinguish between interpersonal trust and

institutionally based trust. This is the treatment I have addressed and employed in examples thus

far. Lower organizational capacity neighborhoods were more governed by face to face

interactions and tended to rely on interpersonal trust whereas higher organizational capacity

neighborhoods were governed more by institutional integration and tended to rely on trust in

institutional entities. As such, lower organizational capacity neighborhoods will have more to

gain or lose given their level of interpersonal trust. Similarly, neighborhoods more governed by

institutional integration will have more to gain or lose given their level of confidence in formal

institutional agents and agencies. Again, I do not mean to suggest that *the only* neighborhoods

that benefit from interpersonal trust are those organized by face to face interactions. Our

experiences collecting data in New Orleans suggest that all neighborhoods exhibiting higher

levels of interpersonal trust benefited from that form of trust.[4] There is likely a cumulative

positive effect of various kinds of trust in more institutionally integrated neighborhoods. But at

the same time, these neighborhoods are also more likely to have better economic assets, human

and social capital, and higher organizational capacities. As such, they are able to rely more

heavily on these assets for neighborhood recovery. And most important to this discussion,

collective actions among high organizational capacity neighborhoods do not require high

interpersonal trust (Cook, Hardin and Levi 2007, Portes and Vickstrom 2011). Unlike lower

organizational capacity neighborhoods, high organizational capacity neighborhoods can appeal

to institutional norms and the delegation of responsibilities. The cumulative effects from

interpersonal and institutional trust among higher organizational capacity neighborhoods were

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[4] Our team collected the data for this study. We also conducted several dozen in depth
interviews with community and neighborhood leadership across the Greater New Orleans area.

not as important as were the effects of interpersonal trust among lower organizational capacity neighborhoods. Furthermore, more affluent and higher capacity neighborhoods could rely much more heavily upon the effects of their economic assets for neighborhood recovery. Poorer neighborhoods with lower organizational capacities did not have the same assets and therefore had more to lose if they did not have high interpersonal trust to rely upon in situations requiring collective action.

2.1.2. Generalized, Particularized, and Strategic Trust

Smith (2010) highlights an alternative but related breakdown for different kinds of trust, citing generalized, particularized and strategic conceptualizations of trust. Generalized trust refers to an orientation to trust most people or to believe that in most cases, most people can be trusted. Particularized trust is trust based on in-group/out-group distinctions. And strategic trust is trust based on knowledge of particular individuals and social groups in particular situations. The conceptualization Smith (2010) highlights and the one associated with mode of social organization are consistent: interpersonal trust is more akin to generalized and particularized trust, and strategic trust is more akin to institutional trust.[5] I will draw out these similarities in more detail in a discussion of generalized, particularized and strategic trust.

2.1.2.1. Generalized Trust

Generalized trust refers to an orientation to trust most people or to believe that in most cases, most people can be trusted (Yamagishi 2001, Uslaner 2002, Hardin 2002, Soroka et al. 2003, Uslaner and Coneley 2003, Cook 2005, Marschall and Stolle 2004, Cook et al. 2005,

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[5] It may be the case that generalized trust actually spans the two realms.

Smith 2010). Smith (2010) points out that generalized trust goes by other names in the social

sciences.[6] Rotter (1980) refers to it as interpersonal trust, Hardin (2002) calls it social trust, and

Putnam (2000) thin trust. Generalized, particularized, and strategic trust tend to support different

types of social ties. While generalized trust is broadly believed to support most kinds of social

ties (Cook, Hardin and Levi 2007), it may be especially important for enhancing cooperative

relations among diverse networks (Putnam 1995, Fukuyama 1995). These networks are often

characterized by weak ties (Granovetter 1973, Lin et al. 1981, Lin 1999 & 2001) and bridging

ties (Putnam 2000, Woolcock 2001). Unlike the ties between family members, friends and other

tightly knit networks, weak and bridging ties connect individuals and their networks to resources

that exist outside of their in-groups. If this is the case, generalized trust should be the most

broadly beneficial orientation regardless of neighborhood context. In other words a high level of

generalized trust within a neighborhood likely benefits neighborhoods where it is present, all else

being equal. Because the network ties of generalized trusters are likely to be more diverse both

in terms of weak and strong ties (Wookcock 2001, Newman and Dale 2005), as well as in terms

of attachments to in-group and out-group memberships (Smith 2010), cooperation within the

neighborhood will be high and connections to resources which exist outside of the neighborhood

are enhanced. Newman and Dale (2005) suggest that such diversity in ties is beneficial for

dealing with "environmental change." Similarly, Elliott and Pais (2006) identify network ties

which were important for rates of return in New Orleans after Hurricane Katrina. The ties they

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[6] Smith (2010) provides an excellent review of the trust literature. I appeal to her review
throughout this dissertation.

identified as important were analogous to strong and weak ties, as well as ties to formal and informal networks.

The consequences of a lack of generalized trust in neighborhood recovery and the ties they tend to foster are likely contingent upon neighborhood organizational capacity. Lessons from the neighborhood effects literature surrounding collective efficacy are instructive for thinking about how organizational capacity interacts with trust. Collective efficacy refers to a social context characterized by a "linkage of mutual trust and the shared willingness [of community members] to intervene for the public good (Sampson, Morenoff and Gannon-Rowley 2002)." Thus, when trust is not present in a neighborhood, collective efficacy cannot exist (Sampson and Morenoff 2006). Importantly, Sampson and Morenoff (2006) do not examine a generalized form of trust; the trust they look at is more akin to trust and confidence in neighbors specifically, not in people generally.

While the concepts of collective efficacy and organizational capacity are similar, this point helps to distinguish between the two.

Collective efficacy focuses on the confidence neighbors have in one another to act in accordance with established neighborhood norms, regardless of how those norms were established. It seems possible that these norms could be established through face to face interactions or via institutional integration. The collective efficacy literature does not suggest how norms were established or the extent to which they would be important to neighborhood recovery from a hurricane.

Organizational capacity, on the other hand, focuses on a structure of social relations that can serve as a resource for neighborhood recovery. It is a reflection of the quality of leadership

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in a neighborhood where quality is in large part a function of a neighborhood's ability to tap into an established organizational structure(s) for the effective delegation of responsibility. In the case of high organizational capacity, generalized trust is less important because the norms governing positive interaction and association are based on institutional integration rather than on a general orientation to trust others. In neighborhoods with low organizational capacity, generalized trust will be more important as these neighborhoods rely more on interpersonal relationships and will likely also benefit from trusting those who exist outside of their neighborhood that have valuable resources. The distinction between neighborhood trust and generalized trust is also important because it highlights that while people may have trust for those in their neighborhood, they may also have distrust for those outside of their neighborhood. This is the case represented by particularized trust which I will discuss in the next section.

Other lessons from the collective efficacy literature are likely applicable to neighborhood recovery in New Orleans: low or no trust and a lack of collective efficacy likely hindered rates of return and in turn overall neighborhood recovery. Sampson (1986) found that residents living in low trust neighborhoods were likely to move away if they had the resources to do so. In the context of neighborhood recovery in New Orleans, the effect of low neighborhood trust prior to the storm likely diminished residents' ambitions to return to that same neighborhood to rebuild and live post-Katrina. A lack of population pressure has multiplicative negative effects on recovery including diminished economic recovery and further isolation of the residents who do return. All these processes perpetuate a vicious cycle of dysfunction which retards recovery in an area as well as in adjacent areas. Pervasive distrust has the effect of diminishing cooperation both within and between neighborhoods. For instance, Portes and Sensenbrenner (1993) find

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that where trust is lower the likelihood of positive intragroup lending is diminished. The flip

side of this relationship played out in several New Orleans communities including the Jewish

community, the Vietnamese community in New Orleans East, as well as in mutual aid societies

like the Social Aid and Pleasure Clubs. All these groups were characterized by high levels of

solidarity and trust, and to varying degrees they provided material assistance to one another in

the form of money, materials and labor. These groups demonstrate that strong in-group trust can

produce positive outcomes. That said, these groups also had fairly high levels of generalized

trust and their recoveries may have been supported by both forms of trust. What seems likely is

that the strong in-group trust these communities possessed contributed to positive outcomes. But

as the discussion of particularized trust will highlight, in-group trust will not necessarily be

beneficial in all cases, especially when that in-group trust is accompanied by out-group distrust.

In addition, neighborhood contextual factors, including level of organizational capacity will

likely influence the degree to which in-group trust is beneficial for neighborhood recovery.

2.1.2.2. Particularized Trust

Particularized trust is trust based on in-group/out-group distinctions (Smith 2010, Uslaner

2002, Uslaner and Coneley 2003) and can be characterized by the following statement, "if people

are like me then I tend to trust them, while if they are not like me I tend not to trust them."

Particularized trust is most closely associated with strong in-group ties and few if any weak ties

or other connections to out-group members. Uslaner and Coneley (2003) draw this distinction

out in terms of either looking "outward" or "inward" where an outward orientation is more

suggestive of generalized trust and an inward orientation more suggestive of particularized trust.

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On one hand particularized trust may be beneficial for neighborhood groups as it is

believed to heighten solidarity; this is consistent with Coleman's (1988) take on closure. On the

other hand, this in-group orientation may isolate a neighborhood from the broader community as

well as from the resources which exist outside the in-group community (Woolcock 1998, Putnam

2000, Newman and Dale 2005). Woolcock (1998) refers to this situation as "integration without

linkage." For Woolcock (1998) the presence of both integration and linkage represents the

optimal conditions for community development. The optimal situation seems to be more

consistent with generalized trust,[7] than particularized trust. Bottom up development,[8]

characterized by high levels of integration at a local level requires linkages to "extra community

networks,"[9] including local governments and industry (Woolcock 1998). This situation

contributes to the establishment of effective norms and beneficial structures of social relations,

reflecting a combination of the best qualities associated with structures emerging from face to

face interactions and those emerging from institutional integration. Social "integration" without

linkage is injurious to development in that generalized trust tends only to be extended to the in-

group where "fierce" attachments serve to discourage members "from advancing economically,

moving geographically, and engaging in amicable dispute resolution with outsiders" (Woolcock

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[7] This orientation also seems consistent with strategic trust.

[8] Woolcock (1997) suggests that a bottom up approach and its emphasis on social integration draw heavily on the work of Durkheim and later W.J. Wilson. When Woolcock refers to "integration", he refers more to social integration rather than institutional integration. Institutional integration is more akin to "linkage" in Woolcock's model.

[9] According to Uphoff (1993) local refers to "individuals, households, small groups and communities" (Woolcock 1998).

1998).[10] "Linkage" without "integration" hinders development by creating anomic conditions "where individuals have newly-found freedom and opportunity to participate in a wide range of activities, but lack the stable community base to provide guidance, support and identity" (Woolcock 1998).[11]

The idea that inward looking neighborhoods may be cut off from the resources that exist outside their own neighborhood, has consequences for recovery. Namely, if the resources within a neighborhood are sufficient for neighborhood recovery, particularized trust may be beneficial for that neighborhood's recovery. Alternatively, fierce in-group attachment and trust, coupled with out-group distrust will hinder recovery where resources are insufficient for recovery. These are some of the ways that neighborhood context influenced the degree to which aggregated levels of particularized trust in a neighborhood likely influenced neighborhood recovery.

Again, the degree to which the structure of social relations in a neighborhood was beneficial for recovery will be a function first of the financial resources available to the neighborhood and second of the social resources available for recovery including the level of organizational capacity and levels of different kinds of trust. Among low organization capacity neighborhoods, this means that if the people in a neighborhood trust at least one another, they may receive some benefit from their form of social organization. But if within-community trust is accompanied by distrust for those outside the community, groups that rely on face to face interactions may actually be hindered by this form of trust.

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[10] Woolcock draws from Banfield (1958) referring to this condition as "amoral familism".
[11] Here, Woolcock draws on an extension of Durkheim employed by Portes and other immigrant entrepreneurship scholars.

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Be it on the basis of race or social class, people who only trust their neighbors are less likely to have far reaching social networks with diverse ties and effective relationships with formal institutional entities. Low resource neighborhoods who are characterized both by low levels of organizational capacity and a particularized trust orientation will recover more slowly because they are more likely to be isolated from the resources of outside groups and communities and to have reduced likelihoods of effective cooperation with outside groups.[12]

2.1.2.3. Strategic Trust

The last conceptualization Smith (2010) identifies in the trust literature is strategic trust, or trust based on knowledge of particular individuals and social groups in particular situations. It is issue specific trust, given knowledge of the motivations and track record of the trustee(s) (Marschall and Stolle 2004). More so than generalized or particularized trust, strategic trust, while fairly durable, remains mutable. Sampson and Graif (2009) agree with Smith (2010) that generalized trust is likely the product of socialization and is therefore less likely to change. Strategic trust is not based on a general orientation toward a general other. Strategic trust is trust for particular social entities or representatives whose motivations are known to the truster. This kind of trust is more likely to change given the outcomes of interactions between truster and trustee. Change in this sense means that strategic trust can be strengthened or weakened depending on the quality of interaction.

An important feature of strategic trust is that it is issue specific trust. From a strategic trust point of view, I may trust my plumber to come to my house and work on my pipes, but I do

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[12] Complicating the matter is the idea that an in-group orientation may be based on a number of factors, including race and social class.

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not trust him to watch after my children. I trust him given the issue of plumbing, and this does not extend to looking after my kids. Generalized trust on the other hand is more broadly extendable beyond the realm of direct knowledge about the actions and motivations of others. Generalized trust assumes that the intentions of "most people" are pro-social and fall in line with societal norms and values. Hardin (2002) provides a distinction between strategic and generalized trust suggesting that strategic trust is trust which considers the trustworthiness of the other, while generalized trust does not tend to consider an individual's trustworthiness. Whereas generalized trust should be considered within the context of social learning theory, strategic trust is based on direct knowledge through experience, or through indirect experience given explicit reputational information about the trustworthiness of the trustee in a given situation (Hardin 2002, Smith 2010).

While the case has not been made explicitly in either direction, the literature surrounding these three forms of trust suggest that that one may be both a generalized truster and still possess strategic trust or strategic distrust. For example, it could be the case that while I may be a generalized truster, my iterated negative experiences with my mechanic in fixing my car have diminished my strategic trust in her. One could also simultaneously be a particularized truster and have strategic trust for certain others who are not members of one's in-group. For example, If I were a middle class white person and only tended to trust other middle class white people, I may still have strategic trust in some specific others who are of a different race and social class, given my direct experiences with them.

Strategic trust is conceptually most consistent with 1) the types of trust the collective efficacy literature tends to address and 2) with the broad category of institutional trust. Strategic

trust is consistent with collective efficacy in that many of the questionnaire and interview items associated with the concept are about the trustworthiness of neighbors to work on one another's behalf in a given situation. That said some of the collective efficacy measures may also be reflective of a particularized or generalized orientation to trust. The distinction is most clear when one separates the questions concerning the combinations of trust and cohesion from those concerning trust and the accomplishment of some goal.

Typically the goal questions concern the exercise of social control and do not explicitly use the word "trust". Rather than appealing to the affective or moral (Uslaner 2002) components of trust, these questions appeal to expectations of behavior (Sampson et al. 1997, Raudenbush and Sampson 1999, Sampson and Graif 2009). A typical question might ask: "if a group of children were skipping school and hanging out on a street corner, how likely is it that your neighbors would do something about it?" (Sampson and Graif 2009). The questions that do explicitly ask about trust in the collective efficacy literature could inform either a particularized or generalized trust orientation. The case may be stronger for the idea that they tap a more particularized trust orientation because they ask respondents about "people in this neighborhood" which very well may constitute their in-group. Survey questionnaires typically ask for level of agreement provided statements like "people in this neighborhood can be trusted" (Sampson and Graif 2009). That said, these questionnaires do not typically ask specifically about out-group distrust. Measures of distrust for out-groups would allow us to better distinguish between different forms of trust. The next paragraph will illustrate how.

Strategic trust *seems* to be most consistent with institutional trust, and in Durkheimian language, a more organic form of solidarity. Organic solidarity relies on a complex division of

labor wherein institutional agents are relied upon to fulfill their expected obligations within a narrow set of parameters (Durkheim 1893:1964, Portes and Vickstrom 2011). But this arrangement does not mean that trust is not important for the maintenance of interpersonal relationships (Cook, Hardin and Levi 2007). A high level of strategic trust in a neighborhood likely means that residents count on certain agents for the maintenance of certain aspects of the social system. But this does not necessarily suggest one mode of social organization over another; it merely indicates that people in the area have come to have faith in, or trust particular others, in particular situations. Neighborhood organization can be the product of both institutional integration and of face to face interactions; in fact this is the ideal arrangement Woolcock (1998) describes as the combination of linkage and integration. As such, strategic trust could be couched within structures of social relations that are based on either or both face to face interactions and institutional integration. That said, if the mode of social organization in a neighborhood is only, or mostly, the product of institutional integration, then it would make sense that as long this group had high organizational capacity, they could likely recover while only having faith in their institutional arrangements – which is to say without generalized trust. But if a neighborhood is only or mostly governed by face to face interaction and they are not integrated into formal institutions, this means they are not likely to have high institutional trust, but they could still have strategic trust in particular others or particular groups of others. It is also possible that neighborhoods with high generalized trust might also have high levels of strategic distrust and this distrust might be directed at intuitional agents like the police, bankers, and others perceived to be in positions of institutionalized power.

Trusting institutional agents and agencies is akin to someone believing that these entities will fulfill their institutional obligations in a way that will benefit them as a contributing member of the institutional system. Anderson (1999) suggests that pervasive distrust of institutions like law and law enforcement tends to be associated with concentrated disadvantage. Tyler and Huo (2002) find that this distrust is likely a function of poor experiences with legal authorities. In other words, those who have themselves or who are close to people who have had negative experiences with formal institutions will not tend to see those institutions as benefiting them. They may see themselves as residing outside of the protection of that system and therefore rely more on other forms of cohesion and integration. In terms of neighborhood recovery, strategic trust likely benefits neighborhoods where it is present but is also not likely as important if a neighborhood also has high generalized trust.

This section has pointed out the different kinds of trust and described what the effects of having or not having them will be within different neighborhood contexts. Given this framework, I describe the deficiencies in current approaches to trust in the disaster literature.

2.1.2.4. The Unexplored Role of Trust in Disaster Literature

Relating this framework for trust to the prevailing applications of trust in the disaster literature illustrates how current treatments leave the role of trust unmeasured or unexplored. The approaches highlighted by Smith (2010) and other trust scholars, along with the neighborhood literature surrounding collective efficacy provide a better theoretical map for laying out how trust and other social resources work within different neighborhood contexts for disaster recovery than do current approaches within the disaster literature. The disaster literature to date tends to deal with the role of trust in the following ways: trust is typically treated as a

coequal component of social capital and different types of trust and their effects are not typically differentiated; the effects of trust are rarely examined at the neighborhood level; studies seldom examine the physical and material recovery of neighborhoods; and the effects of trust are too often assumed rather than measured and operationalized.

A number of studies suggest that trust is important for community recovery, but fail to provide direct measures of the concept. Sherrieb et al. (2010) do not address the role of trust beyond saying that trust is inherent in social networks. Similarly Aldrich (2010 & 2012) suggests that trust is a feature of social capital but only examines approximate indicators of social capital like the number of community organizations in an area. This kind of approach treats trust as a coequal component of social capital and tends to conflate the structural and cognitive components of social capital. As such the approach is problematic for addressing the complex role of trust in recovery. This is important because different kinds of trust are likely at work for recovery in different neighborhoods and because trust will generally be more or less important given financial resources and level of organizational capacity. One of the central premises in this study is that neighborhood context, and especially mode of neighborhood social organization, influences organizational capacity. Assuming this, the way people interact will in part determine which kinds of trust will be important. If we do not measure and consider both institutional trust and interpersonal trust, we may miss out on important social processes within different kinds of neighborhoods. For instance, Haines, Hurlbert and Beggs (1996) suggest that neighborhood context is important for the provision of social support and include trust in government in their model. But without a measure of interpersonal trust, we fail to recognize

that not all neighborhoods are equally able to utilize institutional trust for enhancing disaster recovery.

Trust is typically treated as a coequal component of social capital in the disaster literature. This statement applies to both qualitative and quantitative disaster literature. While qualitative studies provide valuable insight into disaster recovery, the approach to social capital and trust tend more toward impressionistic assessments and are often unable to deliver direct comparability across multiple indicators of trust within a full range of neighborhood contexts. For example, Dynes (2006) uses a comparative analysis of previous disaster literature to suggest that social capital is *"our most significant"* resource for disaster recovery.[13]   But his approach is only capable of identifying trust as one of the many components of social capital. His assessment places trust firmly in the role of coequal component, alongside five other components of social capital identified by Coleman (1990). In their multilevel qualitative study, Moore et al. (2004) suggest that social resources mediate vulnerability to disaster but they only look at trust between neighbors. They do not look at the effects of institutional trust for recovery. In their model, social cohesion, collective efficacy and social capital mediate community vulnerability and influence community recovery. But they are unable to provide strong evidence for the relative importance of their neighborhood trust measures within the context of other resources and other forms of trust. This limitation is in large part a feature of a purely qualitative research design.

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[13] Emphasis added.

Like Moore et al. (2004) many studies of resilience (see Sherrieb et al. 2010) focus on physical and mental health outcomes when they refer to recovery. But even within this context, very few studies examine the role of trust thoroughly. Treating social cohesion, collective efficacy and social capital as coequal and pointing out that these resources are mutually supportive does not adequately explain how these resources come together to help some neighborhoods carry out faster and more effective recoveries than others. To my knowledge, there are no studies empirically examining the relative effects of particularized, strategic, and generalized trust within the context of recovery from disasters. A handful of studies do highlight the importance of interpersonal or institutional trust (Haines, Hurlbert and Beggs 1996, Nakagawa and Shaw 2004, Stewart, Kolluru and Smith 2009) but only Nakagawa and Shaw (2004) examine both simultaneously. Beyond that, these studies have not attempted to empirically examine the effects of various kinds of trust on the physical recovery of neighborhoods. Haines, Hurlbert and Beggs (1996) look at trust in government as a feature of community context, predicting the provision of individual level social support. Stewart, Kolluru, and Smith (2009) argue persuasively that establishing different kinds of trust is important for encouraging public private partnerships but do so only within a review of literature.

Nakagawa and Shaw (2004) come closest to being able to describe the features of community which might contribute to differential community level recovery outcomes. Nakagawa and Shaw (2004) ask a similar research question to the one at the heart of this study; the authors want to know why some communities recover faster than others. Since their conceptual framework addressing this question is similar to my own, I will spend some time describing their study.

Nakagawa and Shaw (2004) suggest that social capital, community leadership and the "community's trust in their leaders" helped explain differences between faster and slower community recoveries from the disasters they examined. Importantly, Nakagawa and Shaw (2004) examine both the structural and cognitive dimensions of social capital (Uphoff 2000). Their conceptual model appeals to different kinds of social ties where different ties imply different forms of trust. Some ties revolve around interpersonal trust and others around trust in institutions and institutional actors. While their theoretical approach is consistent with my own and their findings promising, Nakagawa and Shaw's (2004) research design, data, and analytical strategy do not meet rigorous sociological standards and are incapable of providing a statistical analysis of trust within variable neighborhood contexts.

Their study consists of two sets of comparisons. The first comparison is between Mano neighborhood in Kobe Japan and the town of Bhuj in Gujarat, India – both communities suffered from massive earthquakes but they occurred six years apart and in vastly different socio-political and economic contexts. Their second comparison examines differences between social groups within the town of Bhuj. There are several shortcomings with each comparison. With respect to the first comparison, the authors do not work with directly comparable data. As Weil (2013) argues, "ideally one would like strictly comparable indicators, both of social capital and of recovery" when making comparisons of community recovery from disasters. Nakagawa and Shaw (2004) draw comparisons using secondary and qualitative data from an earlier study of the Mano community, and some primary, qualitative and secondary data for the Bhuj community. The authors supply some detailed descriptive statistics about the demographic breakdown of the four (of twenty six) Bhuj communities sampled for their survey (N=128); but they only provide

impressionistic summary descriptions of their data sources and their data collection efforts.   In

terms of social capital indicators, the Mano case appeals to a mixed methods case study of Kobe,

Japan while the Bhuj data consists of a resident survey and qualitative interviews of non-profit,

government and community leaders. In terms of recovery indicators, the Mano case seems to

use some official statistics and qualitative assessments while the Bhuj case uses qualitative

assessments and survey data measuring community perceptions about the speed of recovery,[14]

and community "satisfaction for town planning (Nakagawa and Shaw 2004)." The authors

explain that while official statistics exist for Mano, Kobe, there are none that exist for Bhuj

Gujarat.

Shortcomings aside, their study suggests that social capital "is a function of trust, social

networks…and norms such as obligation and willingness toward mutually beneficial collective

action" and that "social capital will be facilitated and/or enforced by trust for community leaders

(Nakagawa and Shaw 2004)."   Though they do not (or were perhaps unable to) employ a

statistical analysis, facilitation implies an interactional statistical model where higher trust in

community leaders enhances the effects of other sources of social capital. This will be similar to

the tests I carry out in my statistical analysis, though my expectations revolve less around social

capital and more around different forms of trust. Importantly, I will give the role of

neighborhood context a more complete examination than do Nakagawa and Shaw (2004). Their

findings suggest that the Mano and Soni (ethnic/religious groups in Bhuj) communities had

higher organizational capacities. Their descriptions of these communities imply higher degrees

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[14] Recovery indicators are never made completely clear in the Mano case.

of institutional integration wherein their community organizations had better linkages with NGOs and government agencies than the other communities they examined. The implication is that higher trust in institutional actors and the people and groups acting as mediators between them and the community enhanced the effects of social capital for recovery in these two communities. Their descriptions of the other Bhuj communities highlighted lower organizational capacities and more mechanical forms of solidarity. Nakagawa and Shaw (2004) find that all the Bhuj communities, save for one, had relatively high "general" trust. This leaves open the possibility that the communities with fewer financial resources and lower organizational capacities would have been even worse off had they not shared higher generalized and interpersonal trust. While the more mechanically solidaristic communities may not have been able to recover as fast as the ones more organized by organic solidarity, interpersonal forms of trust may have helped the mechanically solidaristic groups derive benefits from the potential social resources at their disposal. If that trust were lower, it is imaginable that their recoveries would have been slower still.

Nakagawa and Shaw's (2004) analytical framework does not provide for the statistical tests that might be useful for drawing out the role of trust as a variable moderating the effects of organizational capacity for recovery outcomes, but their conceptual framework highlights important aspects of where best to look at these processes. They agree with other social capital scholars (Woolcock 1998, Sampson, Morenoff and Earls 1999, Kawachi and Berkman 2000, Krishna and Uphoff 2002, Sampson, Morenoff and Gannon-Rowley 2002, Sampson and Graif 2009, Elliott, Haney and Sams-Abiodum 2010) that social capital's influences will be most relevant at the community level. Woolcock (1998) suggests that examinations at the community

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level reveal the complexities inherent in the concept of social capital. He recognizes that different sources and qualities of social capital will have different outcomes in different contexts. Kawachi and Berkman (2000) argue that "there is virtually universal agreement that social capital is a collective characteristic" and that it should be measured at the community level. That said, Sampson and Graif (2009) maintain that most studies are "limited when we consider variations in dimensions of trust or social capital at the neighborhood level." This is generally the case for studies of social capital, not to mention studies of social capital and recovery.

While neighborhood level analysis represents the gold standard for examinations of social capital, very few studies of recovery can claim to be able to provide detailed analysis around neighborhood units. Beyond the Nakagawa and Shaw (2004) study, I found none that examine material recovery at the neighborhood level. Elliott, Haney and Sams-Abiodum (2010) examine the role of social networks in the provision of social support after Hurricane Katrina in two New Orleans communities. This study supported similar findings from Beggs et al. (1996) and Haines et al. (1996) following Hurricane Andrew in Baton Rouge, Louisiana. Again none of these studies examined how both the structural and cognitive components of social resources influenced physical neighborhood recovery from a natural disaster.

Having defined trust and detailed how its role in the disaster literature has largely been left unexplored, I turn now to a discussion of the important neighborhood features that influenced neighborhood recovery from Hurricane Katrina in the Greater New Orleans area.

2.2. FACTORS INFLUENCING NEIGHBORHOOD RECOVERY

Previous literature has established that recovery is heavily dependent on its economic resources but also, that social resources, or social capital, can help communities compensate for a lack of economic resources (Moore et al. 2004, Nakagawa and Shaw 2004, Dynes 2006, Hawkins and Maurer 2010, Aldrich 2010, Sherrieb et al. 2010, Aldrich 2012, Weil 2011, Rivera and Settembrino 2012).

This was also the case in New Orleans' recovery from Hurricane Katrina. Weil (2011) outlines the role different resources played at the individual level given neighborhood context.

> People with individual resources like money and education were less likely to receive storm damage because they lived in places that were less likely to flood; they were more likely to have adequate insurance; and they were more likely to be civically engaged. People with insufficient individual resources were more dependent on collective resources or, failing that, on government assistance to compensate and enable them to recover. People who had neither individual nor collective resources were least likely to recover.

What was true of individual level recovery was also true of neighborhood level recovery; more affluent neighborhoods with less damage, and neighborhoods with better individual and collective resources, like a civically engaged resident base and a strong neighborhood association, tended to recover more fully and effectively. In the absence of sufficient economic resources, neighborhoods that had better social resources in the forms of social capital, organizational capacity or trust would have stronger recoveries than if they lacked one or all of these social resources. Before more fully addressing the roles of trust and organizational capacity in recovery, I will describe the features characterizing models of community recovery from previous literature.

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Two strands of literature will be especially important for examining neighborhood level recovery from disasters: neighborhood effects literature, and disaster resilience literature. Each strand is important because they have both recently made efforts to address the role of social resources in problems of collective action.

2.2.1. The Neighborhood Context

The neighborhood effects literature addresses social resources within a framework of neighborhood context. Neighborhood context envelopes the combination of demographic, economic and cultural features characterizing a neighborhood (or community) and suggests how neighborhoods tend to organize themselves given their structural and cultural assets and constraints (Sampson 1988; Sampson and Bartusch 1998; Marschall and Stolle 2004). Numerous features of neighborhood context influenced neighborhood level recovery, including: extent of damage and flooding, the extent of economic resources for recovery, levels of income, levels of education, degree of ethnic heterogeneity, social capital, trust, and organizational capacity. Some of these characteristics are quite straightforward. Neighborhoods with higher degrees of pre-storm blight, storm related damage and flooding tended to recover more slowly. Magnitude of damage has been argued to be the primary determinant of speed of recovery following disasters (Hass et al. 1997, Yasui 2007). All else being equal, harder hit neighborhoods recover more slowly than neighborhoods enduring less damage. Neighborhood recovery was also slowed by material disadvantages that pre-dated and were not directly caused by the storm. In many ways, the features of pre-storm disadvantage that work against disaster recovery are analogous to the set of disadvantages that impede various kinds of development generally. Wacquant and Wilson (1989) explained how concentrated poverty interacts with economic

disruptions making economic recovery from a downturn slower in ghetto neighborhoods than in more affluent ones. Similarly, Elliott et al. (1996) suggest that the negative effects of poverty for adolescent development are compounded by various characteristics of neighborhood disadvantage,[15] namely rates of unemployment, cultural heterogeneity, and population turnover, and changes in the structure of the job market, family composition, and urban renewal housing policies. The same negative multipliers were likely exacerbated by storm damage and at play throughout various aspects of New Orleans' recovery process.

In their discussions of mental health outcomes following disasters Benight, McFarlane and Norris (2006) and Norris et al. (2008) support the idea that preexisting disadvantages interact with disaster related stressors. They appeal to "stress diathesis theory" for explaining post disaster mental health recovery outcomes, suggesting that the level of exposure to a stressor (e.g. a disaster) interacts with pre-existing vulnerabilities and negatively impacts the process of recovery. The extent of pre-storm blight in New Orleans, a feature of the city's long term decline (Campanella 2008), can be placed alongside the list of non-storm related disadvantages that tended to slow down recovery in many neighborhoods. Overwhelming blight and damage depressed the likelihood that people would return to a given area of New Orleans. Residents who were less sure about whether their neighbors would rebuild were themselves less likely to return to the neighborhood they lived in prior to the storm (Paxson and Rouse, 2008).

A final feature of neighborhood context highlighted within disaster recovery models with fairly straightforward effects is affluence. Affluence is really the flipside of disadvantage. More

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[15] Elliott et al. (1996) suggest that the negative effects of poverty for childhood development are multiplicative.

affluent neighborhoods with better financial resources like high incomes, better assets and insurance tended to recover more rapidly than did less affluent neighborhoods (Sawada and Shimizutani 2008, Aldrich 2010, Sherrieb et al. 2010, Weil 2011). Norris et al. (2008) include "Economic Development" among the sets of adaptive capacities for resilience. "Economic Development" refers to the "volume" and "diversity" in the economic assets available to a community. The concept includes material resources like income and physical capital but also captures the equitable distribution of assets within a community. Community assets refer to the accessibility and quality of health services, housing, schools and employment opportunities. Better economic resources are important for recovery in a number of ways. First there are geographical benefits associated with better economic resources (Norris et al. 2008), and this seemed especially true in New Orleans (Cutter, Boruff and Shirley 2003). Many affluent neighborhoods in New Orleans were spared from the worst damage from flooding because they were located in areas of higher elevation and often more sophisticated flood protection systems (Weil 2011, Nelson and Leclair 2006). Poorer communities are much more vulnerable to the effects from natural disaster (Quarantelli 1994). Kaniasty and Norris (1995 & 2004) find that especially with respect to the distribution of post-disaster support, resources are often allocated according to the "rule of relative advantage." The basic idea is that more affluent communities with better political connections are advantaged in terms of the availability and accessibility of resources for recovery (Kaniatsty and Norris 1995 & 2004, Norris et al. 2008). Norris et al. (2001) argue that these rules can apply within communities as well. The "rule of relative advantage" extends what Wacquant and Wilson (1987) suggest about the connections between different types of resources, to disaster recovery and organizational capacity. As Norris et al.

(2008) suggest, the poorest communities are not often governed in the most egalitarian ways. Weak, corrupt or otherwise ineffective leadership within neighborhoods may manifest itself in the inequitable allocation of limited resources. This practice likely serves to diminish participation within the formal neighborhood structures. If residents view their neighborhood leadership as corrupt or ineffective, they will be less likely to invest themselves in more formal neighborhood organizations; an investment that might otherwise have enhanced neighborhood recovery. Perhaps more importantly, poor leadership my serve to diminish the likelihood that neighborhood residents will be able to work together effectively. In these cases, neighborhood residents would most likely have to rely on their interpersonal connections to one another and on mutual trust. Neighborhoods characterized by ineffective leadership were likely to have slower and more uneven recoveries. That said, higher trust between residents in such neighborhoods may have enabled residents to cope with poor neighborhood leadership.

Other features of neighborhood context also affected disaster recovery, but their effects are more complex and perhaps contingent upon other factors like neighborhood trust and form of neighborhood social organization. In the framework I am developing, the mode of social organization describes the characteristic ways in which neighborhood people tend to navigate day to day living. Mode of social organization in large part determines what a neighborhood needs in order to have a stronger recovery than would be predicted by their economic resources alone. The question is whether residents can rely on their organizational capacity or whether they must have some kind of interpersonal trust to derive benefits from their connections to others. How did neighborhoods get along socially and what are the mechanisms that make their connections to one another work for recovery? This is not a binary question, indeed some

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neighborhoods were likely able to benefit both from their organizational capacity and their interpersonal trust. The relationships in the next sections demonstrate the complexity of certain features of neighborhood context. The more complex features of neighborhood context I discuss include degree of ethnic heterogeneity, organizational capacity and social capital.

2.2.2. Ethnic Heterogeneity and Mode of Social Organization

Ethnic heterogeneity may have sometimes been an asset and sometimes a liability for neighborhood recovery. I found no studies that examine the effects of ethnic heterogeneity on neighborhood disaster recovery, but studies of neighborhood effects outside of disaster situations provide insight into examining the effects of ethnic heterogeneity, or ethnic diversity, for solving problems requiring collective action. There is little consensus within the neighborhood effects literature about the influences of ethnic heterogeneity on achieving positive neighborhood outcomes. Many argue that lower degrees of ethnic diversity in neighborhoods contribute to consensus building around neighborhood priorities. Costa and Kahn (2003) found negative associations between degree of ethnic diversity and various measures of civic engagement at the macro level. Elliott et al. (1996) suggest that "cultural heterogeneity" works against network "closure"; an important form of social capital within Coleman's (1988) early treatment of the concept. Coleman (1988) argues that closure is a quality of the structure of social relations whereby sufficient ties between members of a family, group, or community are present, so as to ensure the maintenance of effective social norms. In this treatment, ethnic heterogeneity undermines efforts at collective action because effective norms will be more difficult to establish and maintain when communication and the level of consensus regarding goals are diminished (see also Marwell, Oliver and Prahl 1988). The point here about a diminished level of consensus

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regarding neighborhood goals is an interesting one within the context of neighborhood recovery. It may be the case that this issue is less problematic in a post disaster situation. For instance, benefits from ethnic diversity may come by way of "self-interest rightly understood" when an ethnically diverse neighborhood recognizes its shared interest in the recovery of its neighborhood (Patterson, Weil, Patel 2010). In other words when a mutual benefit is perceived by people of different ethnicities in the same neighborhood, cooperation becomes more likely. The case has also been made that cooperation will be more effective among people who trust one another (Cook 2005). As such, it may also be likely that ethnic diversity in a neighborhood may be an asset when ethnically diverse people have high trust in one another.

Broadmoor is an example of a neighborhood in New Orleans that appeared to have benefited from their ethnic (and economic) diversity. Former neighborhood president Latoya Cantrell described Broadmoor as a "microcosm of the city of New Orleans, both demographically and economically."[16] She explained that the high level of trust in her neighborhood allowed leadership to get "buy in" from residents of different backgrounds. Some of Broadmoor's success in neighborhood recovery came by way of grants which they were in part able to attract given the presence of their many low income residents. The fact that they also had higher income residents with good connections, organizational skills and managerial skills helped ensure that grant proposals were attractive to grant providers and that grant money was effectively used. The roles of neighborhood trust and/or organizational capacity are apparent in these processes, especially where lower income people had to trust that their "buy in" would be

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[16] Quote pulled from a filmed interview with then Broadmoor Improvement Association president Latoya Cantrell, conducted by Frederick Weil and myself (interview date: 8-11-10).

honored in terms of the equitable use of grant money in the neighborhood. Whether that buy in was a product of interpersonal trust or organizational capacity is an interesting question, but it seems as though one or the other, or both were required.

The idea that the kind of cooperation demonstrated within Broadmoor, namely the kind that bridges race and socioeconomic status, can be supported by trust and yield positive outcomes has support within social scientific literature. Stolle, Soroka and Johnston (2008) find that frequent interactions among residents in diverse communities keep levels of trust from being diminished. Especially within majority white communities, frequent interactions among ethnically diverse members diminishes negative effects from ethnic diversity for social cohesion and civic engagement (Stolle, Soroka and Johnston 2008). Portes and Vickstrom (2011) expand upon the idea that the relationship between ethnic diversity and social capital is likely contingent upon contextual factors. They argue that the mode of social organization within a society is a major factor influencing the effect of ethnic heterogeneity. In their review article on immigration, ethnic diversity, and social capital, Portes and Vickstrom (2011) appeal to Durkheim's forms of solidarity to explain how diversity may be more or less beneficial given the ways groups of people tend to organize themselves. "Mechanically" solidaristic groups maintain order primarily through mutual acquaintanceship and face to face interactions within a culturally homogeneous context. Among "organically" solidaristic groups, by contrast, face to face interactions are less important for the maintenance of the status quo. These groups rely more on their integration with formal institutions for the maintenance of society. In this respect, Portes and Vickstrom suggest that ethnic diversity is more likely to contribute to good outcomes within societies that are characterized by organic solidarity than by mechanical solidarity. While Portes

and Vickstrom apply Durkheim's framework to societies as a whole, these ideas can be extended to neighborhoods within societies. Some neighborhoods are more characterized by organic solidarity and others more by mechanical solidarity. It is in this way that features of neighborhood context, and especially mode of neighborhood social organization and trust, influenced a communities' recovery from Hurricane Katrina. Neighborhoods with higher organic solidarity have social networks and community organizations that are highly integrated into the formal institutions of society, while neighborhoods with higher mechanical solidarity are more characterized by face to face interactions and lower levels of integration with the formal institutions of society. It is my position that the characteristic ways in which people interact in their everyday lives influence how they extract benefits from potentially beneficial social resources.   Within neighborhoods relying more on institutional integration, interpersonal trust will be less important for neighborhood recovery, and within neighborhoods relying more on face to face interactions interpersonal trust will be more important for neighborhood recovery.

Take for instance the Vietnamese in New Orleans East. This group is highly solidaristc and their solidarism is a feature of the social structure within their ethnic enclave. It is for this reason that many scholars view "ethnicity" as a form of social capital, emerging from a culturally endowed form of social organization (Coleman 1988, Zhou and Bankston 1994). Zhou and Bankston found that the Vietnamese in New Orleans East have beneficial cultural characteristics, namely a strong work ethic and a normative orientation to help others within the community, and these features help its members compensate for material disadvantages.

Similarly, it is my position that the benefits the Vietnamese yield from their particular form of solidarism for neighborhood recovery are in part made possible by the fact that they have

high levels of trust in one another. In other words if their level of interpersonal trust were lower, perhaps they would not be able to derive the same benefits from their ethnicity for hurricane recovery. If it is in fact trust which moderates the effects of culturally endowed social capital, then one could imagine a neighborhood consisting of multiple ethnic groups, each drawing from their own culturally endowed social resources for positive neighborhood recovery. People in such a diverse neighborhood would have to be engaged and they would have to possess the right kinds of trust. Alternatively, as Portes and Vickstrom (2011) point out, it is also possible that similar benefits from ethnic diversity could be the product of higher organizational capacity. In fact, Portes and Vickstrom (2011) suggest that ethnic heterogeneity is actually more likely to be beneficial within groups that are more characterized by organic solidarity than by mechanical solidarity.

In Porte's and Vickstrom's (2011) treatment, it is not totally clear whether societies range along a single continuum of solidarity, falling somewhere between the poles of organic solidarity or mechanical solidarity or whether societies range along both dimensions simultaneously. In either case, I only wish to employ their framework insofar as it highlights differences in how neighborhoods tend to organize themselves in daily life and how this relates to levels of neighborhood organizational capacity.

2.3. THE RELATIONSHIP BETWEEN ORGANIZATIONAL CAPACITY AND TRUST

After controlling for material resources, organizational capacity is the central component in the model of recovery I am developing. While a neighborhood's mode of solidarity likely influences its organizational capacity, the two concepts are not interchangeable. Organizational capacity reflects the efficacy of neighborhood organizations and neighborhood leadership and

refers to the ability to effectively delegate responsibility and utilize formal institutional structures; mode of solidarity reflects the extent to which daily neighborhood life is organized around face to face interactions and or institutional integration. Organic solidarity seems to be more consistent with possessing a higher level of organizational capacity and mechanical solidarity seems to be more consistent with possessing a lower level of organizational capacity; but in my treatment, it would be totally plausible for a neighborhood to be highly integrated into the formal institutions of society, and still retain and benefit from high interpersonal trust. That said, it is also my position that cooperation within such a neighborhood would be more the product of norms associated with institutional integration and would therefore be less reliant on interpersonal trust. In contrast, neighborhoods possessing lower levels of organizational capacity would need interpersonal trust to help them compensate for the lack of structure institutional integration affords higher organizational capacity neighborhoods in neighborhood recovery. In the model I am developing, neighborhoods will have higher or lower organizational capacities and these capacities are influenced by neighborhood contextual factors, especially the characteristic ways in which people tend to organize themselves for daily life. Assuming this, different kinds of trust will be more or less beneficial to neighborhoods given their levels of organizational capacity.

Sturgis et al. (2011) find support for the idea that the influences of different kinds of trust hinge on neighborhood contextual factors. Like Portes and Vickstrom (2011), Sturgis et al. (2011) focus on the relationship between trust and diversity. They suggest that neighborhood diversity works differently within the contexts of generalized trust and strategic trust. It seems logical to suggest that neighborhoods that rely more upon face to face interactions than upon

institutional integration for the maintenance of daily life might have lower levels of organizational capacity. As such, neighborhoods that have lower levels of organizational capacity would benefit from having higher levels of interpersonal trust. Likewise, it seems logical to suggest that neighborhoods that rely more on institutional integration than on face to face interactions for the maintenance of daily life, likely have higher levels of organizational capacity and therefore do not require high levels of interpersonal trust to achieve goals requiring collective action. In this way, neighborhoods with higher organizational capacities would have less to gain given higher interpersonal trust when compared to neighborhoods with lower levels of organizational capacity. That said, it may also be the case that higher organizational capacity neighborhoods derive benefits from having higher trust in institutional actors and arrangements because these neighborhoods rely more on institutionalized arrangements than on interpersonal ones for day to day living.

I suggest that this is how the interaction of organizational capacity and trust plays out in neighborhood recovery. Neighborhoods with lower levels of organizational capacity have more to lose or gain given various kinds of interpersonal trust, and neighborhoods with higher organizational capacities have less to lose or gain given levels of interpersonal trust. Lower organizational capacity neighborhoods typically have fewer resources outside of their collective resources for recovery when compared to neighborhoods with higher organizational capacities. This important point is largely a feature of how our society tends to assign economic rewards. People and groups with more education, working within a highly complex division of labor, who are plugged-in to the most successful and relied upon institutions in society, tend to reap better economic rewards. These people also tend to live around one another and organize themselves

in ways that tap their experiences working in and relying on formal institutions for the maintenance of daily life.

The fact that economic success in society is so tied to institutional integration creates a large overlap between mode of social organization, the extent of economic resources in neighborhoods, and neighborhood organizational capacity. Neighborhoods with higher organizational capacities tend to be more affluent than neighborhoods with lower organizational capacities. This does not necessarily imply a causal link between mode of neighborhood social organization (e.g. organic or mechanical) and the level of economic advantage or disadvantage in a neighborhood, but it does suggest how trust might work given different forms of social organization and different levels of economic advantage and disadvantage.

Certain neighborhood characteristics *can* be assets (e.g. social capital), but what determines the extent to which these characteristics *will* be assets may be the neighborhood context. There are two ways to think about this: first, particular forms of social organization can help groups compensate for economic disadvantages, and second the degree to which potential social resources (like solidarism) are required for positive neighborhood outcomes is a function of the economic disadvantage in a neighborhood. For instance Zhou and Bankston (1994) explain how cultural orientation can serve as a potential source of social capital given the structures of social relations within and surrounding a community. They suggest that "immigrant cultural orientations are not only rooted in the social structure of the immigrant community but also are responsive to [the] social environment surrounding the community." Zhou and Bankston (1994) are referring to the idea that this group's particular form of solidarism is in part a reaction to the social disorganization and relative disadvantage they see surrounding them. Our

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ethnographic work in the Vietnamese community in New Orleans East suggests that this group blends aspects of organic solidarism with mechanical solidarism. There is significant face to face interaction that helps govern everyday life but they also possess strong institutional apparatuses in the forms of the Catholic Church and their community development center. This blend seems to represent what Woolcock (1998) describes as the combination of "integration and linkage" wherein the neighborhood is tightly knit and their neighborhood institutions are able to represent the neighborhood's interests in more formal and institutionalized environments. Though the Vietnamese in New Orleans East are not affluent, their solidarism helps them compensate for this fact even while the disadvantage that surrounds them is significant. It is likely that their solidarism benefits them in numerous ways including recovery from disasters. In fact, research on this group post-Katrina suggests that their solidarism did indeed help them recover more quickly than their economic assets alone would have predicted (Li et al. 2009, Weil 2011). All this said, if the community were more affluent, they would not have needed to rely so heavily on their collective resources for recovery. I do not mean to suggest that the Vietnamese would not have benefited from their blend of solidarism had they been more affluent. Indeed, neighborhoods who had both affluence and solidarism benefited from their solidarism. But in the absence of economic resources, some form of solidarism was critical for successful neighborhood recovery.

If certain neighborhood characteristics can be assets for neighborhood recovery, but what determines the degree of a potential asset's importance is neighborhood context, then "social capital" should be conceptualized as a potentially beneficial structure of social relations

embedded within neighborhood context.[17] *Potential* is the operative word here because social capital is a compensatory resource; it is something that can help neighborhoods compensate for a lack of economic resources, but it is not entirely required where economic resources are sufficiently abundant. Much in the way the mode of social organization influences the extent to which different kinds of neighborhood trust will be important for neighborhood recovery, the degree of affluence or disadvantage in a neighborhood will likely suggest the extent to which social resources in general were necessary for effective neighborhood recovery. In sum, a neighborhood's mode of social organization and their degree of disadvantage or affluence tend to influence their level of neighborhood organizational capacity. Their organizational capacity will determine what kinds and the extent to which potential social resources – including social capital and various kinds of trust – interacted and were beneficial for neighborhood recovery.

I do not mean to suggest that affluent neighborhoods *cannot or did not* benefit from social resources; what I suggest is that if an affluent neighborhood's mode of social organization contributed to higher organizational capacity, then that neighborhood did not require high levels of interpersonal trust in order to recover. And, that if their affluence provided enough resources for recovery, then social resources were less important. If financial resources were lacking in a higher organizational capacity neighborhood, then that neighborhood could count on their ability to delegate responsibility and upon institutional norms to improve neighborhood recovery. In the

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[17] This view is consistent with the suggestions of Sampson, Morenoff and Earls (1999) about social capital as it relates to outcomes for children. They suggest that "social capital for children refers to the resource potential of personal and organizational networks".

absence of both resources and organizational capacity, interpersonal trust was generally more important for neighborhood recovery.

In terms of whether or not higher trust made for better outcomes in more affluent areas, I argue that it did, but that the influences from different kinds of trust were 1) generally less important than were they for less affluent neighborhoods, and 2) dependent upon mode of neighborhood social organization, where neighborhoods governed more by face to face interactions saw more benefit from interpersonal trust and where neighborhoods governed more by institutional integration saw more benefit from high organizational capacity and confidence in institutional actors and agencies. This is one of the central features of my argument: different kinds of trust were more or less important for recovery, given the neighborhood context. Certain kinds of trust benefited affluent and higher organizational capacity neighborhoods, but the kinds of trust which were most important for these neighborhoods were not the same kinds which were most important in poorer and lower organizational capacity neighborhoods. Beyond that, poorer and lower organizational capacity neighborhoods had more to gain or lose in terms of recovery given higher and lower interpersonal trust.

Given, these premises and the definition of social capital as potentially beneficial structures of social relations embedded in neighborhood context, I turn to a more in depth discussion of social capital within the context of disaster recovery.

2.4. DISASTER RECOVERY AND SOCIAL CAPITAL

The social science community tends to address the system of resources for recovery in terms of resilience. Norris et al. (2008) explain that disaster resilience research typically follows one of two paths: one is more concerned with resilience as a preventative set of capacities, and

the other is more concerned with disaster management and recovery. While this dissertation is centrally concerned with the recovery path, both sets of literature inform a general model of recovery from disasters.

Broadly, disaster recovery is a function of two things: the resources available for recovery and the severity of the disaster within a particular social context (Quarantelli 1985, Rutter 1987, Norris et al. 2008, Weil 2011). Resources for recovery are often described in terms of different forms of capital. Dynes (2006) describes the forms of capital used in responding to community emergencies as physical capital, human capital, and social capital. Similarly, Norris et al. (2008) identify features of economic, human, and social capital as contributing to community resilience; adding that resources contribute to resilience, when they are sufficiently "robust", "redundant", and/or rapidly deployable. In other words economic, social and human capital build resilience when they are capable of helping communities adapt to changing situations like those found in disaster situations. These qualities also highlight the extent of a community's organizational capacity and reflect a neighborhood's ability to identify, cultivate and mobilize recovery relevant resources like knowledge, connections, and skills. This approach is consistent with models Norris et al. (2008) explore in their effort to find the "set of capacities that should become the focus of our attention in community resilience theory, research and application." Drawing from Goodman et al. (1998), Norris et al. (2008) identify four sets of "adaptive capacities" which include "Economic Development", "Social Capital", "Information and Communication", and "Community Competence."[18]

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[18]Save for the role of trust in recovery, the model I develop is highly consistent with Norris et al. (2008). As such I lay out their suggestions in some detail.

I have discussed Norris et al.'s (2008) take on "Economic Development" in some detail earlier in this chapter. Briefly restated, economic development refers to the "volume" and "diversity" of the economic assets available to a community. The concept refers both to the extent of assets and the equitable distribution of assets within a community. I do not wish to focus on economic development in the model I develop. Though it is centrally important to determining when trust will be important, this model focusses on the social resources that can potentially benefit less affluent neighborhoods in their recoveries from Hurricane Katrina.

The idea that resources can be potentially beneficial (Sampson, Morenoff and Earls 1999) and Norris et al.'s (2008) idea that resources can be "adaptive" both highlight similar qualities, one of which is the quality of being compensatory. Studying the role of trust in recovery helps us understand how communities without economic resources might be able to compensate for economic disadvantages. I am chiefly concerned with controlling for the effects of economic resources so that we might better understand the interactional relationship between trust and organizational capacity. While neighborhood organizational capacity is highly related to economic factors, I will demonstrate that these influences have unique effects on neighborhood recovery. The other "adaptive capacities" Norris et al. (2008) identify, "Social Capital", "Information and Communication", and "Community Competence", more closely inform the model of neighborhood recovery I wish to employ.

In their review of the social capital literature, Norris et al. (2008) suggest that social capital encompasses networks structures, social support and community bonds. "Network structures" include the reciprocal links between inter-organizational agents which enable cooperative decision making within and between networks (Goodman et al. 1998). Social

support refers to the interactions between individuals embedded in a system of caring social relationships that yield actual assistance (Barrera 1986). Community bonds refer to "three key social psychological dimensions" including "sense of community, place attachment, and citizen participation" (Norris et al. 2008). Sense of community addresses a sense of trust, belonging and caring about a community (Perkins and Taylor 2002). Place attachment refers to an emotional connection to one's physical neighborhood that exits outside of their interpersonal connection to the people who actually live there. Sense of community and place attachment are similar to the "location specific capital" Paxson and Rouse (2008) identify as a central feature in their model predicting return rates of New Orleanians after Katrina. The final dimension of social capital Norris et al. (2008) identify, citizen participation, refers to the level of engagement demonstrated by community members in organizations like neighborhood associations (Perkins and Taylor 2002). Similar features of social capital have proven important for neighborhood recovery in post-Katrina New Orleans (Weil 2011). Norris et al.'s (2008) view of social capital as one of four adaptive capacities for community recovery supports the conceptualization of social capital as potentially beneficial structures of social relations which are embedded in neighborhood context.

Besides social capital, Norris et al. (2008) recognize information and communication as vital to resilient communities. This set of adaptive capacities refers to the quality of both information and the dialogue between community members about their concerns and goals. The combination of these qualities facilitates adaptive processes associated with community resilience and capacity (Goodman et al. 1998, Ganor and Ben-Lavy 2003, Comfort 2005). Importantly, Norris et al. (2008) point out that information and communication work best when

information is understood to come from a trusted source. Norris et al. (2008) cite Longstaff's (2005) assessment that "a trusted source of information is the most important resilience asset that any individual or group can have." Information and communication seem to be more important for disaster preparation than for disaster recovery in Norris et al.'s (2008) treatment, especially with respect to evacuation. That said, Norris et al. (2008, see also Norris et al. 2006) suggest that once in place, "communication systems" can be used to coordinate and deploy volunteers as well as help connect community members to vital recovery services. These processes were also at play in neighborhood recovery from Hurricane Katrina. [19]   In terms of connecting residents with resources, some of the most effective neighborhood organizations and associations did extensive case management with their residents or connected residents with case managers working for various local and national non-profits. The idea that a trusted source of information is important (Longstaff 2005, Nakagawa and Shaw 2004) for resilience is especially relevant for effective neighborhood leadership and in turn neighborhood organizational capacity. Trust in neighborhood leadership is in part a function of the leadership's ability to communicate effectively with residents, encourage dialogue and participation, as well as provide their members with useful and accurate information. This information was important for avoiding things like contractor fraud, or being connected to vital recovery resources.

The role of leadership also folds into Norris et al.'s (2008) next set of adaptive capacities, community competence. Norris et al. (2008) explain that community competence is the

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[19] These insights come from observations in the field and interviews with neighborhood and community leaders across the Greater New Orleans area. Interviews with neighborhood leadership were conducted as part of the broader study "Reconstituting Community".

"networked equivalent of human agency." In this way it is akin to the concept of collective efficacy (Sampson, Raudenbush and Earls 1997) from the neighborhood effects literature because it gets at the agentic aspects of social capital. In fact Norris et al. (2008) suggest that the concept of collective efficacy "bridges the domains of social capital and community competence" in their model. Collective efficacy and community competence both deal with collective action, decision making and community empowerment. These concepts represent a shared willingness among community people to work together, and a mutual confidence that their efforts will yield positive outcomes. Importantly, trust is inherent in both concepts. Beyond that, both community competence and collective efficacy get at another important feature associated with recovery processes at the neighborhood level - goal specificity. Much of the collective efficacy and social capital literature suggests that not all network structures and interactions will contribute to positive outcomes (Elliott et al. 1996, Woolcok 1998, Portes 1998, Lin, 1999, Sampson, Raudenbush and Earls 1997, Sampson, Morenoff and Earls 1999, Sampson, Morenoff and Gannon-Rowley 2002, Sampson and McAdam et al. 2005, Sampson and Graif 2009). This idea has also started to work its way into disaster research (Benight and Harper 2002, Benight 2004, Cook 2005). Interactions and network structures which attempt to address particular goals will have the most impact on achieving those goals. One might see how having a friendship network may improve one's chances for recovery, but this network will not be as effective as one designed for achieving recovery related goals. Applied to the neighborhood level, if a neighborhood has committees set up to deal with blighted properties, it's likely that the presence of those network structures will be more valuable to blight mitigation than merely having a neighborhood where most people know one another (Weil et al. in preparation).

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The adaptive capacities Norris et al. (2008) include in their model of resilience are consistent with the treatment of social capital and organizational capacity used in this proposal, with the exception of "economic development". Organizational capacity in this proposal is akin to the features Norris et al. (2008) describe as "information and communication", and "community competence". Broadly, these adaptive capacities also highlight features of neighborhood human and social capital.[20] Human capital includes education as well as expertise in recovery relevant areas. Such areas might include law, marketing, community organizing, construction, volunteer coordination, and business management. Neighborhood organizational capacity is influenced by the extent of human capital in a neighborhood, much like it is influenced by economic factors. That said, I will show that while neighborhood organizational capacity is highly related to neighborhood human capital, these features of neighborhood context have unique effects on neighborhood recovery.

Social capital refers to potentially beneficial structures of social relations. At the neighborhood level, the structure of social relations refers to the social dynamics and patterns of interaction which characterize a given neighborhood.[21] For instance, the combination of networks found in a neighborhood in part suggests what the structure of social relations are like.

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[20] A neighborhood's organizational capacity was also in part a function of the economic resources in a neighborhood, where more affluent neighborhoods were more likely to have higher organizational capacity.

[21] More broadly the structure of social relations refers to the social dynamics and patterns of interaction characterizing a particular unit of analysis. For example, an individual's social network can be characterized as having a particular structure of social relations; that structure, for example, could be characterized by weak or strong ties (Granovetter 1973), or by thin or thick trust (Putnam 2000).

The combination could be described, as solidaristic or atomized, or characterized in terms of a cooperative or combative orientation to outside groups. Perhaps most important for this study is the extent to which the maintenance of daily life in a neighborhood was a feature of face to face interactions, and the extent to which it was a product of institutional integration. An important observation we made during the data collection process was that in poorer neighborhoods, residents had difficulties navigating the formal institutional apparatus which the federal and local governments put into place to aid in recovery - especially when compared to residents living in more affluent areas. In addition, many of these neighborhoods lacked broad participation in neighborhood organizations with formal leadership and delegation structures. These difficulties and the lack of formal neighborhood associational involvement reflect a mode of social organization that is not characterized by frequent interactions with or reliance on formal institutions for day to day existence. Even still, some of these poorer neighborhoods were able to appeal to collective resources for fairly effective recoveries.[22] I am suggesting that part of the difference between more and less recovery, especially in poorer neighborhoods, can be explained by how people in those neighborhoods tended to trust, where the more trusting neighborhoods were better able to derive benefits from potentially beneficial structures of social relations for recovery.

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[22] While many neighborhoods were characterized by one form of cohesion or another, a few neighborhoods were characterized by neither form of cohesion and this is where to expect the most dysfunction and lowest rates of recovery.

Now that I have laid out the conceptual and theoretical framework for how trust influenced neighborhood recovery, I discuss the development of important indicators and the methods employed in data collection and analysis.

CHAPTER 3. DATA, METHODS AND INDICATORS

In order to determine how different types of trust influenced features of neighborhood context for recovery, I will need to examine the following within each New Orleans neighborhood:

1. Organizational capacity.

2. Neighborhood level trust.

3. Social Capital.

4. Demographic features including Ethnic Heterogeneity.

5. Neighborhood Recovery.

3.1. DATA COLLECTION AND SAMPLE

The data I employ to examine these characteristics include original data collected as part of a major study of disaster recovery in New Orleans as well as tract level census data.[23] The original data are from the LSU Disaster Recovery Survey (LSU DRS).[24] The LSU DRS was administered between the spring of 2006 and the spring of 2011 and yielded over 7000 responses. Our sample includes 2658 non-Hispanic African Americans, 3265 non-Hispanic whites, 132 Latinos, 207 Asian Americans (most of whom are Vietnamese), and 738 whose ethnicity could not be determined. The sample is jointly weighted according to Census counts by age, gender, and race/ethnicity. Our large sample size coupled with the fact that our responses

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[23] Weil et al. (forthcoming) provides a complete description of the project.
[24] Data collected for this project also include the LSU/NPN Association Leader Survey as well as in-depth qualitative interviews with over 100 community leaders and residents. These data and the data collection process helped inform my theoretical and analytical frameworks.

were well distributed across the GNO area allow us to aggregate cases to the level of census tract in Orleans and St. Bernard Parishes with a mean of 21 and median of 14 respondents per tract.[25] The two parishes represent 198 tracts in total.[26] These data allow me to make meaningful comparisons between well-defined geographic units in terms of structures of social relations, trust, and other features of neighborhood context.

In order to gather the most representative sample possible during a very chaotic time we employed multiple methods of data collection for the LSU DRS. We relied mostly on internet, paper, and door-to-door face-to-face methods. Before receiving funding from the National Science Foundation, samples were gathered via email lists and at neighborhood organization and church gatherings. We continued these strategies after receiving funding, but funding allowed us to sample harder to reach respondents by going door-to-door with teams of paid interviewers, volunteer groups and sometimes neighborhood people. Tract level census data are merged with the LSU DRS helping me triangulate and cross verify the accuracy of the demographic, damage, and recovery related measures in our original data.

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[25] I restrict my sample to tracts within Orleans Parish and St. Bernard Parish for two reasons: first, these parishes suffered the most extensive hurricane related damage, and second the vast majority of our responses came from these two parishes.
[26] I employ a sample that excludes census tracts constituted by housing projects. With project tracts excluded the sample contains 187 census tracts. A more detailed explanation is provided in section: "3.3. Sample Considerations".

3.2. INDICATORS

The major independent variables include neighborhood organizational capacity,

neighborhood levels of generalized trust and particularized racial trust,[27] ethnic heterogeneity,

various forms of neighborhood level social capital, as well mean household income and average

neighborhood level of education. Each of these measures are derived from the LSU DRS.

Individual responses to the LSU DRS are aggregated to the tract level to produce neighborhood

level measures. For the purposes of this analysis, neighborhoods refer to census tracts and the

terms will be used interchangeably. I specify how each variable is operationalized below.[28]

3.2.1. Organizational Capacity

Organizational capacity represents the efficacy of neighborhood organizations and

neighborhood leadership. To assess neighborhood organizational capacity, tract level factor

scores are computed using two related five-item Likert-type scales of individual perceptions of

neighborhood leadership, and one dichotomous measure indicating a resident's ability to

correctly name their neighborhood association. The two scale measures reflect resident

responses to questions about "how good a job" they think various leaders and institution have

done in the recovery from the Hurricane Katrina and subsequent flooding. The two question

categories include "Your New Orleans neighborhood's representatives in city government" and

"The leadership of your New Orleans Neighborhood". Respondents could answer that

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[27] Attempts to capture strategic levels of trust were made but as the sample for strategic trust was
quite diminished, only results for generalized and particularized racial trust will be reported in
this dissertation.
[28] The variance inflation factors (VIFs) associated with the operationalized variables were
reviewed using multiple regression analysis. VIFs are all lower than 3.7 and these tests indicate
that the models I address are not unduly influenced by issues of multicolinearity.

leadership did "great", "good", "neither good nor bad", "bad", or "terrible". Answers are reverse coded in order to produce scales where "terrible" represented a score of "0", and "great" represented a score of "4". The dichotomous measure indicating whether residents were able to correctly identify their neighborhood association was adapted from the following question: "What is the name of the neighborhood association where you live in Greater New Orleans? (Or if you've moved away, what was its name?)". Responses that correctly identified the neighborhood's association name are coded a "1" and all other responses are coded "0" unless missing. The three component measures are aggregated to the tract level and then combined into a composite measure of "neighborhood organizational capacity". All three components loaded together on a single dimension using Varimax Rotation in a factor analysis and their reliability score yielded a Cronbach's Alpha of .664.

3.2.2. Generalized Trust and Particularized Racial Trust

This analysis examines the effects of two types of interpersonal trust. The interpersonal trust measures include "generalized trust", and "particularized racial trust". Generalized trust is measured with responses to the question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" Respondents could answer "most people can be trusted" or "can't be too careful". The responses are coded "1" for "most people can be trusted" and "0" for "can't be too careful" where a "1" represents higher generalized trust. Several components of the particularized racial trust measure are drawn from a Likert-type scale battery of questions asking respondents "how much do you trust the following groups of people?". For each group, respondents could answer that they "Trust them a lot", "Trust them some", "Trust them only a little", "Trust then not at all", or "Does not apply". The

"does not apply" category was treated as missing. The particularized racial trust measure is complex because it combines measures of generalized trust, in-group racial trust and out-group racial distrust into a single composite measure. The question categories measuring in-group racial trust and out-group racial distrust included questions about "how much do you trust the following groups of people": "White People", "African Americans or Blacks", "Asian People", and "Hispanics or Latinos". The rest of this paragraph describes the rationale for how the measures comes together to form particularized racial trust. As I suggested earlier, one cannot simultaneously be a generalized truster and a particularized truster. The highest scores for particularized racial trust are achieved by respondents who are first not generalized trusters, second have *high in-group racial trust*, and third have *high out-group racial distrust*. In-group racial trust is assessed by looking at the level of trust a person expressed for those of their own self-identified racial group. Scores range from "0" to "3" where a score of "3" represents the highest level of in-group racial trust. Out-group racial distrust is assessed by taking the average level of distrust a respondent had for people of races other than their own. Mean scores range from "0" to "3" where a "3" represents the highest level of mean distrust for other racial groups. Generalized trust, in-group racial trust, and out-group racial distrust are combined into an iterative index of "particularized racial trust". Scores are assigned to different iterations of the three measures based on the intensity of particularized racial trust they represent. One may think of a four tiered scoring system.[29] The first tier represents people with various thoughts about different racial groups but who possess generalized trust; by definition, these respondents are not

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[29] See Appendix 1 for more on the particularized racial trust scale construction.

particularized trusters and therefore are assigned a score of "0" on the particularized racial trust scale. Those who are not generalized trusters but who also do not possess any in-group racial trust also score a "0" on the measure of particularized racial trust. At the second tier we have respondents who are scored a "1" on in-group racial trust. Particularized racial trust scores for these respondents can vary from a low score of "1" to a high score of "4", depending upon how high are their mean out-group racial trust scores. At the third tier we have respondents who scored a "2" on in-group racial trust and they are assigned particularized racial trust scores of "2", "4", "6", or "8" depending upon their mean level of out-group racial distrust. Finally, at the fourth tier, we have respondents who scored a "3" on in-group racial trust and they are assigned particularized racial trust scores of "3", "6", "9", or "12" depending upon their mean level of out-group racial distrust.

3.2.3. Social Capital

The neighborhood social capital variables include a measure of faith-based social capital, associational involvement, and informal socializing. These social capital indicators replicate measures employed by Weil et al. (in preparation). Each social capital variable reflects the tract level factor-scores drawn from tract level aggregations of different sets of scale components. The scale components for faith-based engagement include responses to questions regarding church service attendance, church membership, and participation in church activities besides services. Scale components for associational involvement include responses to questions about whether or not respondents had taken part in the following activities in the past 12 months: a "Sports club", a "Youth organization", a "Parents' association like PTA", "Activities at Church", a "Neighborhood association", a "Charity organization", a "Professional association", a "Hobby,

investment, or garden societies" or "Other clubs or organizations". Components for the final

social capital measure, informal socializing, include responses to questions about the frequency

with which respondents had done the following: "Attended any public meeting in which there

was a discussion of town or school affairs"; "Had friends over to your home"; "Visited relatives

in person or had them visit you"; "Socialized with co-workers outside of work"; "Played cards or

board games with others"; "Attended a club meeting"; "Hung out with friends at a park,

shopping mall, or other public place"; "Gone to bars, nightclubs, music events"; and "Attended

sports events".

3.2.4. Demographic Features

Important demographic features include tract level aggregations of household income and

education, and the degree of ethnic heterogeneity. Educational level is measured using the

question "What is the highest grade of schooling that you have completed? Responses included

"8th Grade or less", **"Some high school"**, **"High School Diploma"**, **"Vocational/Technical

school"**, **"Some College"**, and "College degree".

Household income is assessed in the LSU DRS with the following question: "What was

the total income that you and all other members of your household earned before taxes last year,

from all sources: "Under $25,000", "$25,000 to $50,000", "$50,000 to $75,000", "$75,000 to

$100,000", "$100,000 to $200,000", and "More than $200,000". Household income is estimated

for respondents who declined to answer this question using the parameters from a regression

equation predicting income. The regression equation predicting household income includes the

education variable, race, and a question asking about what economic quartile a resident's

household fell into, in relation to their neighbors' households. Only residents who did not provide an answer to the first household income question are assigned predicted values.

Ethnic heterogeneity is calculated for each census tract using a Herfindahl index for race given the census weighted averages for self-reported race in the LSU DRS. Each tract's ethnic heterogeneity is measured by summing the squares for the percentage of each race within that tract. This provides each tract with a "racial diversity index" score ranging between "0" and "1" where "0" represents perfect racial heterogeneity (at least two races with equal representation within a tract) and where "1" represents perfect racial homogeneity (100% of residents were of the same race).

Finally, controls for race, age and damage are included in these analyses. The measure of damage is derived from the LSU DRS while the measures for age and race are derived from the American Community Survey. Damage is a composite measure reflecting the tract level factor scores for two related questions. The first question asked "How much physical damage did your residence suffer as a result of hurricane Katrina and the subsequent flooding? [If apartment or condo: your own unit.]". Responses included "None or almost none", "Some physical damage", "Major physical damage", or "Complete destruction, unsalvageable". The second question asked "About how deep were any flood waters in your residence?". Responses included "No flood damage", "less than 2 feet", "2-4 feet", "4-8 feet", "8-12 feet" or "Over 12 feet". The measure of age reflects the median age within each census tract between 2005 and 2009. Likewise, the race control reflects the census tract averages for the percentage of African American households within each tract between 2005 and 2009.

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3.2.5. Neighborhood Recovery

The dependent variable, mean household recovery, is derived from the LSU DRS. Mean household recovery reflects aggregated levels of individual assessments of household recovery. Respondents could indicate that they felt their household was either "fully recovered", "mostly recovered", "about half recovered", "somewhat recovered", or "not at all recovered". Responses for each measure are reverse coded so that higher scores reflect stronger recovery.

3.3. SAMPLE CONSIDERATIONS

As Weil et al. (in preparation) describe, special considerations and precautions are taken in order to account for outliers in the tract level data. Tracts containing housing projects are excluded from this analysis because their repopulations were not subject to the same sociological processes that influenced recovery among the rest of New Orleans. Repopulation in these tracts was a product of administrative intervention. The housing projects were torn down post-Katrina and the city replaced them with low-rise, and often, mixed income dwellings. As a result, the observed values within these tracts represent outlier effects that badly skew analyses.

3.4. HYPOTHESES

In order to show how trust influenced neighborhood recovery I will first need to show the direct effects of human and economic capital, organizational capacity, ethnic heterogeneity, trust and various forms of social capital on hurricane recovery; and second that the effects of various forms of trust were moderated by the effects of organizational capacity. Tests of the following hypotheses will help establish whether and how trust was important in determining recovery outcomes among neighborhoods possessing different levels of organizational capacity.

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H1: Neighborhoods possessing better economic and human capital and better social resources will have higher levels of recovery.

H1a: Neighborhoods possessing higher levels of economic and human capital will have higher levels of recovery.

H1b: Neighborhoods possessing higher levels of organizational capacity will have higher levels of recovery.

H1c: Neighborhoods possessing higher levels of generalized trust will have higher levels of recovery.

H1d: Neighborhoods possessing higher levels of particularized racial trust will have lower levels of recovery.

H1f: Neighborhoods possessing higher levels of social capital will have higher levels of recovery.

The next set of hypotheses address how various forms of aggregated trust within neighborhoods interacted with neighborhood organizational capacity.

H2: Trust will interact with organizational capacity and influence neighborhood recovery.

The following sub-hypotheses concern how different forms of interpersonal trust interact with organizational capacity.

H2a: Organizational capacity will matter less for neighborhood recovery among neighborhoods with high generalized trust.

H2b: Particularized racial trust will matter more for neighborhood recovery among neighborhoods with low organizational capacity.

3.5. TESTS

   H1 and its sub-hypotheses will be tested using multiple regressions of the variables described above. I will carry out analyses which first examine the direct effects of variables highlighted within each hypothesis separately and then in models that include control variables. For instance, to test H1a I will estimate a regression model for neighborhood recovery using measures of human and economic capital as well as other demographic controls (age and race) and damage. After I have done this for each of the variables highlighted within H1 separately, I will estimate another regression model that includes all of the variables of interest in a single model.

   H2 and its sub-hypotheses will also be tested using multiple regression analysis. In order to demonstrate the effects of interacting trust and organizational capacity I will draw comparisons between two sets of regression models: one that excludes the interaction between trust variables and organizational capacity; and another that includes the interaction of trust variables and organizational capacity. Tests will be provided for generalized trust and particularized racial trust separately.

CHAPTER 4. RESULTS

4.1. DIRECT EFFECTS

Tables 1 through 11 illustrate the results from tests of H1 using ordinary least squares regression to predict neighborhood level recovery for Orleans and St. Bernard Parish census tracts.[30] All tables present unstandardized coefficients, standard errors and significance levels for each of the independent and control variables.

4.1.1. Neighborhood Income and Education

Tables 1 through 3 present results from tests of H1a and illustrate the direct effects of economic and human capital on recovery, without and with controls for median residential damage, median age, and the percentage of African American households.[31] Tables 1 and 2 illustrate the direct effects of education and income separately and Table 3 illustrates the direct effects from each measure within the same regression model.

Table 1: Direct Effects Reduced Model - Education

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.3182 ***	(0.0502)
Pct Non-Hispanic Black	-	-	-0.0875	(0.1206)
Median Age	-	-	-0.0073 *	(0.0041)
Education	0.26677 ***	(0.0315)	0.19028 ***	(0.0392)
Adj R^2	0.275		0.399	
N	187		187	
*p≤.1,**p≤.05,***p≤.001				

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[30] Again, this sample excludes census tracts constituted by housing projects.

[31] Weil et al. (forthcoming) find that neighborhoods with more damage, higher percentages of elderly residents, and higher percentages of African American residents tended to recover more slowly.

Separately, education and income have positive and significant relationships with neighborhood recovery. In models including both measures, income does not achieve significance until controls are added to the model. When controls are applied both income and education achieve significance; but of the two measures, education seems to be the stronger predictor of neighborhood level recovery. These tests provide support for H1a. Neighborhoods with higher levels of education and income tended to be more recovered.

Table 2: Direct Effects Reduced Model - Income

(unstandardized coefficients reported with standard errors in parentheses)					
	Without Controls			With Controls	
Damage to Residence	-	-	-	-0.3608 ***	(0.0489)
Pct Non-Hispanic Black	-	-	-	-0.0055	(0.1380)
Median Age	-	-	-	-0.0057	(0.0041)
Income	0.27627 ***	(0.0381)		0.21986 ***	.050
Adj R^2	0.217			0.388	
N	187			187	
*p≤.1,**p≤.05,***p≤.001					

Table 3: Direct Effects Reduced Model - Income and Education

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.3244 ***	-(0.0499)
Pct Non-Hispanic Black	-	-	0.04154	-(0.1367)
Median Age	-	-	-0.0067 *	-(0.0041)
Income	0.08533	-(0.0589)	0.11948 *	-(0.0611)
Education	0.20922 ***	-(0.0507)	0.13314 **	-(0.0487)
Adj R^2	0.280		0.409	
N	187		187	
*p≤.1,**p≤.05,***p≤.001				

4.1.2. Neighborhood Organizational Capacity

Table 4 shows regression models for neighborhood recovery given the direct effects of neighborhood organizational capacity, without and with controls for median residential damage, median age, and the percentage of African American households. This model provides support for H1b, showing that neighborhoods possessing higher levels of organizational capacity will have higher levels of recovery. Organizational capacity tends to support stronger neighborhood recovery.

Table 4: Direct Effects Reduced Model - Organizational Capacity

(unstandardized coefficients reported with standard errors in parentheses)		
	Without Controls	With Controls
Damage to Residence	- -	-0.3799 *** (0.0491)
Pct Non-Hispanic Black	- -	-0.3315 ** (0.1039)
Median Age	- -	-0.0056 (0.0044)
Organizational Capacity	0.18893 *** (0.0396)	0.12097 *** (0.0356)
Adj R^2	0.106	0.373
N	184	184
*p≤.1,**p≤.05,***p≤.001		

4.1.3. Neighborhood Racial Diversity

Table 5 shows the regression model coefficients for the direct effects of neighborhood racial diversity on neighborhood recovery. While no formal hypothesis was posited for the effects of neighborhood diversity, I will comment on its effects given its importance in my theoretical construction. This measure of racial diversity employs Herfindahl's diversity statistic, which ranges between 0 (perfect heterogeneity) and 1 (perfect homogeneity). Since higher values suggest lower diversity, the negative sign associated with the diversity coefficient suggests that higher neighborhood racial diversity supported stronger recovery, with and without

controls. That said, the measure's level of significance and effect size are diminished when demographic controls are included.

Table 5: Direct Effects Reduced Model - Racial Diversity

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.35 ***	(0.0550)
Pct Non-Hispanic Black	-	-	-0.424 ***	(0.1040)
Median Age	-	-	-0.006	(0.0050)
Diversity Index	-0.916 ***	(0.2080)	-0.343 *	(0.1940)
Adj R^2	0.091		0.352	
N	184		184	
*p≤.1,**p≤.05,***p≤.001				

4.1.4. Neighborhood Level of Generalized Trust

Table 6 shows the regression model coefficients for the direct effects of generalized trust on neighborhood recovery. This model supports H1c and the coefficients suggest that neighborhood levels of generalized trust had direct effects on neighborhood recovery and tended to enhance recovery with and without controls. That said, its level of statistical significance and the size of its coefficient are diminished when controls are introduced.

Table 6: Direct Effects Reduced Model - Generalized Trust

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.373 ***	(0.0514)
Pct Non-Hispanic Black	-	-	-0.312 **	(0.1242)
Median Age	-	-	-0.0055	(0.0043)
Generalized Trust	1.0654 ***	(0.2056)	0.39487 *	(0.2266)
Adj R^2	0.122		0.333	
N	187		187	
*p≤.1,**p≤.05,***p≤.001				

4.1.5. Neighborhood Level of Particularized Racial Trust

Table 7 illustrates regression models examining the direct effects of neighborhood levels of particularized racial trust on neighborhood recovery. The particularized trust measure achieves significance and in the predicted direction of reducing neighborhood recovery without controls. Once controls are introduced, the particularized racial trust measure fails to retain significance. As the measure fails to retain significance once controls are introduced, this test fails to support H1d.

Table 7: Direct Effects Reduced Model - Particularized Racial Trust

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.3709 ***	(0.0517)
Pct Non-Hispanic Black	-	-	-0.4089 ***	(0.1093)
Median Age	-	-	-0.0064	(0.0046)
Particularized Racial Trust	-0.0961 *	(0.0485)	-0.0151	(0.0432)
Adj R^2	0.016		0.299	
N	182		182	
*p≤.1,**p≤.05,***p≤.001				

4.1.6. Neighborhood Social Capital

Tables 8 through 11 provide results for the test of direct effects from three measures of social capital: informal socializing, faith-based engagement, and associational involvement. Tables 8, 9 and 10 illustrate the effects of each measure separately, and Table 11 shows the effects of all three social capital measures in the same model. Each measure of social capital was hypothesized to enhance neighborhood level recovery (H1f).

Table 8: Direct Effects Reduced Model - Informal Socializing

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.395 ***	(0.0500)
Pct Non-Hispanic Black	-	-	-0.379 ***	(0.1030)
Median Age	-	-	-0.004	(0.0040)
Informal Socializing	0.293 **	(0.1070)	0.252 **	(0.0900)
Adj R^2	0.034		0.350	
N	187		187	
*p≤.1,**p≤.05,***p≤.001				

Separately, and without controls, informal socializing and associational involvement have positive and significant relationships with neighborhood recovery, while faith-based engagement reflects a significant and negative relationship with recovery. When controls are applied, only informal socializing retains significance in models examining the effects of each form of social capital separately.

Table 9: Direct Effects Reduced Model - Faith-Based Engagement

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.404 ***	(0.0698)
Pct Non-Hispanic Black	-	-	-0.471 ***	(0.1060)
Median Age	-	-	-0.005	(0.0040)
Faith-Based Engagement	-0.435 **	(0.2270)	0.276	(0.2060)
Adj R^2	0.014		0.328	
N	187		187	
*p≤.1,**p≤.05,***p≤.001				

Table 11 shows the results for the test of direct effects from all three measures of social capital within the same regression model. Without controlling for mean damage, median age,

Table 10: Direct Effects Reduced Model - Associational Involvement

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-0.381 ***	(0.0520)
Pct Non-Hispanic Black	-	-	-0.403 ***	(0.1124)
Median Age	-	-	-0.006	(0.0040)
Associational Involvement	0.166 **	(0.0470)	0.036	(0.0523)
Adj R^2	0.058		0.324	
N	187		187	
*p≤.1,**p≤.05,***p≤.001				

and the neighborhood percentage of African American households, only faith-based engagement and associational involvement significantly influence neighborhood level recovery. Without controls, associational involvement has a positive influence on neighborhood recovery; whereas faith-based engagement seems to negatively influence neighborhood recovery. Informal socializing appears to have no effect on neighborhood recovery without controls.[32]

Table 11: Direct Effects Reduced Model - All Social Capital Variables

(unstandardized coefficients reported with standard errors in parentheses)				
	Without Controls		With Controls	
Damage to Residence	-	-	-.425 ***	(0.054)
Pct Non-Hispanic Black	-	-	-.451 ***	(0.117)
Median Age	-	-	-.004	(0.004)
Informal Socializing	.159	(0.110)	.285 **	(0.095)
Faith-Based Engagement	-.555 **	(0.225)	.397 *	(0.227)
Associational Involvement	.169 **	(0.050)	-.033	(0.050)
Adj R^2	0.095		0.354	
N	187		187	
*p≤.1,**p≤.05,***p≤.001				

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[32] Appendix 3 shows the results of the tests for each form of social capital within the same Table.

Some interesting changes occur when controls are introduced in this model. When controlling for mean damage, median age, and percentage of African American households, informal socializing becomes the strongest, positive predictor of neighborhood recovery and associational involvement loses significance. In addition, faith-based engagement retains significance but its sign flips, indicating that once controls are introduced, faith-based engagement supports higher levels of recovery.

4.1.7. Full Model Direct Effects

Tables 12 and 13 are the most important tables for addressing H1 and its sub-hypotheses. In these two tables we see presentations of models predicting neighborhood recovery where each model includes a different kind of neighborhood level trust. Table 12 reflects the influences from generalized trust on neighborhood recovery and Table 13 reflects the influences from particularized racial trust on neighborhood recovery.

A number of important changes occur in terms of level of significance, and degree and direction of influence when we examine the effects from all the relevant indicators within the same regression model, rather than separately from one another. The remainder of this section details the differences between the reduced models with controls (mean damage, median age, and percentage of African American households) presented in Tables 1 through 11 and the full models, Tables 12 and 13, that each include a different measure of neighborhood trust.

In all models, the mean level of damage in neighborhoods provides the strongest influence on levels of neighborhood recovery where more damage tends to reduce neighborhood recovery. Income and education behave similarly in the reduced and full models that include the generalized trust measure. Both higher mean neighborhood income and higher mean level of

education tend to support better neighborhood recovery. In the full model (Table 12) as compared to the reduced model (Table 3), income gains in significance, moving from the level of .10 to the level of .05. The effect of income also seems to become slightly more influential than education while generalized trust is in the model.

Table 12: Direct Effects Full Model - Generalized Trust

(unstandardized coefficients reported with standard errors in parentheses)		
Damage to Residence	-.358 ***	(0.0530)
Estimated Income	0.161 **	(0.0600)
Education	0.135 **	(0.0500)
Pct Non-Hispanic Black	.037	(0.1440)
Median Age	-.006	(0.0040)
Organizational Capacity	.124 **	(0.0360)
Diversity Index	-.180	(0.1760)
Informal Socializing	.329 ***	(0.0920)
Faith-Based Engagement	.354 *	(0.2130)
Associational Involvement	-.162 **	(0.0500)
Generalized Trust	-.299	(0.2270)
Adj R^2	0.474	
N	182	
*p≤.1,**p≤.05,***p≤.001		

In comparing the results in Table 12 to those in Table 4, we see that organizational capacity continues to significantly support neighborhood recovery but that the measure drops in its level of significance from .001 to the level of .05.

In terms of influences from the three measures of social capital, informal socializing and associational involvement change significantly when comparing the reduced and full model. The

effect size for informal socializing is increased and gains in significance, moving from the level of .05 to the level of .001. Oddly, associational involvement is negatively related with this particular measure of neighborhood recovery and its relative negative effect is the fourth strongest influence among the measures in the full model. I will return to this strange feature in the discussion section.

Most important for the current analysis is that generalized trust does not significantly influence neighborhood level recovery once we account for the influences of organizational capacity, social capital, education and income. This fact, coupled with the evidence from Table 6 leaves open one of two possibilities for how generalized trust tends to influence mean levels of household recovery in neighborhoods. The first possibility is that generalized trust does not influence neighborhood recovery; and the second possibility is that generalized trust's effects only emerge under certain conditions. These possibilities will be addressed by tests of H2a.

Also noteworthy in comparisons between the full and reduced models including generalized trust is the fact that the percentage of African American families in a neighborhood is not a significant factor of neighborhood recovery. Finally, the measure of ethnic heterogeneity (diversity) does not retain significance moving from the reduced to the full model.

Table 13 illustrates the full model of neighborhood recovery and includes a measure of particularized racial trust. Results for the full model including particularized racial trust mirror those for the full model including generalized trust, with a few key differences. The key difference is that unlike generalized trust, particularized trust does not achieve significance in the reduced models that controlled for damage, age, and race. As such, it seems as though the current operationalization of particularized trust does not significantly influence this measure of

neighborhood recovery, with controls. That said, tests for H2 will examine the possibility that particularized racial trust interacts with organizational capacity to influence neighborhood recovery.

Table 13: Direct Effects Full Model - Particularized Racial Trust

(unstandardized coefficients reported with standard errors in parentheses)		
Damage to Residence	-.347 ***	(0.4370)
Estimated Income	0.132 **	(0.2300)
Education	0.141 **	(0.2860)
Pct Non-Hispanic Black	.059	(0.0380)
Median Age	-.007 *	(0.1070)
Organizational Capacity	.115 **	(0.2000)
Diversity Index	-.137	(0.0480)
Informal Socializing	.365 ***	(0.2400)
Faith-Based Engagement	.375 *	(0.1210)
Associational Involvement	-.149 **	(0.2300)
Particularized Racial Trust	.040	(0.0620)
Adj R^2	0.462	
N	180	
*p≤.1,**p≤.05,***p≤.001		

In light of the results from each of the tests described above, it would seem that there is at least modest support for hypothesis H1. To recap, the reduced models measuring the direct effects from economic capital (mean neighborhood income), human capital (mean level of education), and social resources (social capital, organizational capacity, generalized trust) all had

meaningful effects on neighborhood recovery while controlling for mean resident damage, median age and the percentage of African American households in neighborhoods.[33]

In tests of direct effects using full models, economic and human capital, organizational capacity and two of the measures of social capital all tended to support stronger mean household recovery in Orleans and St. Bernard Parish neighborhoods. Again, it is strange that associational involvement would be negatively associated with this measure of neighborhood recovery, but on balance, the results from the reduced and full models provide modest support for H1. With respect to the influences of different forms of trust, these tests leave open the possibility that the effects of trust may only be important for recovery under certain conditions. I now move on to a description of the results for the tests of this premise.

4.2. INTERACTION EFFECTS

H2 suggests that trust will interact with organizational capacity to effect neighborhood recovery. This premise will be tested by examining the interaction of different forms of trust with organizational capacity using regression analysis. The following regression equation will be used to look at the effect of the interaction between trust and organizational capacity for neighborhood recovery.

$R' = b0 + b1T + b2OC + b3(T \times OC)$, where R' is the predicted score for neighborhood recovery, and T refers to the trust variable, and OC refers to organizational capacity.

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[33] Particularized racial trust is deliberately left out of the above statement because particularized racial trust is not hypothesized to be an asset for most neighborhoods. That said, these tests do not produce results that suggest a significant relationship between the current operationalization of particularized racial trust and the mean level of household recovery in Greater New Orleans neighborhoods.

When the $b3$ coefficient for the product term $T \times OC$ in the regression is statistically significant, this is interpreted as a statistically significant interaction between trust and organizational capacity as a predictor of neighborhood recovery. Because both the levels of mean neighborhood trust and levels of mean neighborhood organizational capacity are quantitative predictors, the scores for each predictor were centered prior to forming the product term for each set of analyses (Warner 2013).

The test for H2 and its sub-hypotheses consisted of comparing two regression analyses given each form of trust, while employing the full model for neighborhood recovery. The regression coefficients and adjusted R^2 for models excluding and including an interaction term are compared given each form of trust and its product term. Tables 14 and 15 illustrate comparisons between the models already presented in Tables 12 and 13 to models that respectively include interactions for each of the two forms of trust.

4.2.1. Generalized Trust and Organizational Capacity

Table 14 addresses H2a. H2a suggests that organizational capacity will matter less among neighborhoods with high generalized trust and matter more among neighborhoods with low generalized trust. Model 1 in Table 14 excludes the interaction of generalized trust and organizational capacity while model 2 includes the interaction term. Comparisons of the models in Table 14 reveal a statistically significant interaction between generalized trust and organizational capacity at the .05 level, as well as a substantive change in the adjusted R^2. The adjusted R^2 for the model excluding the interaction term is .474 while the adjusted R^2 for the model including the interaction term is .492 suggesting that the inclusion of the interaction helps better predict neighborhood recovery. The negative signs and effect sizes for the coefficients for

trust and the interaction term suggest how generalized trust tends to interact with organizational capacity to influence neighborhood recovery. Organizational capacity will matter less among neighborhoods with high generalized trust and will matter more among neighborhoods with low generalized trust.

We can think about the effects of different levels of organizational capacity for two types of neighborhood: neighborhoods with high generalized trust and neighborhoods with low generalized trust. There is greater disparity in neighborhood recovery given level of organizational capacity among lower trusting neighborhoods. As such, organizational capacity has a strong compensatory effect on neighborhood recover in low trust neighborhoods. Among low generalized trust neighborhoods, levels of organizational capacity are highly influential. In these neighborhoods, having higher organizational capacity supports stronger recovery. Among high generalized trust neighborhoods, high organizational capacity does not matter as much. As such, having high organizational capacity in a high trust neighborhood does not substantially improve recovery. This test also suggests that having high organizational capacity is more strongly associated with better recovery than is having high generalized trust. In other words, having higher organizational capacity is more beneficial to neighborhood recovery than is having higher generalized trust.

The inclusion of the interaction term also influences the effects other variables have on mean household recovery in Orleans and St. Bernard Parish neighborhoods. With the interaction term included in the model, the effect sizes of mean neighborhood damage and associational involvement are both slightly diminished and the effect sizes for mean neighborhood income,

Table 14: Interaction Effects Models - Generalized Trust

(unstandardized coefficients reported with standard errors in parentheses)				
	1		2	
Damage to Residence	-0.3580 ***	(0.0530)	-0.3510 ***	(0.0520)
Estimated Income	0.1610 **	(0.0600)	0.1640 **	(0.0590)
Education	0.1350 **	(0.0500)	0.1430 **	(0.0500)
Pct Non-Hispanic Black	0.0370	(0.1440)	0.0370	(0.1420)
Median Age	-0.0060	(0.0040)	-0.0080 *	(0.0040)
Oragnizational Capacity	0.1240 **	(0.0360)	0.1560 ***	(0.0370)
Diversity Index	-0.1800	(0.1760)	-0.1170	(0.1750)
Informal Socializing	0.3290 ***	(0.0920)	0.3650 ***	(0.0910)
Faith-Based Engagement	0.3540 *	(0.2130)	0.4400 **	(0.2110)
Associational Involvement	-0.1620 **	(0.0500)	-0.1550 **	(0.0500)
Generalized Trust	-0.2990	(0.2270)	-0.2980	(0.2200)
Generalized Trust*Organizational Capacity Interaction	-	-	-0.4270 **	(0.1610)
Adj R^2	0.474		0.492	
N	182		182	
*p≤.1,**p≤.05,***p≤.001				

education, median age, informal socializing and faith-based engagement are all enhanced. The

significance level of mean neighborhood faith-based engagement also changes, from being

significant at the level of .1 to the level of .05. Median age also becomes marginally significant

at the .1 level suggesting that having a younger resident base slightly improves recovery

outcomes.

The facts that the interaction of generalized trust and organizational capacity achieved

significance at the .05 level and that the inclusion of the interaction term improved the R^2 of the

regression model predicting neighborhood recovery lend support to H2. This test suggests that

organizational capacity and trust interact to influence neighborhood recovery and that possessing

higher neighborhood trust matters less when neighborhood organizational capacity is high. Also,

in support of H2a, it would seem organizational capacity matters less among neighborhoods with

high generalized trust.

4.2.2. Particularized Racial Trust

Table 15 addresses H2b. H2b suggests that particularized racial trust will influence the

effects of organizational capacity in the neighborhood recovery process and that particularized

racial trust will matter more for neighborhoods with low organizational capacity. Like the

comparison in Table 14, model 1 in Table 15 excludes the interaction of particularized racial

trust and organizational capacity while model 2 includes the interaction term.

A comparison of the models in Table 15 shows that there is not a statistically significant

interaction between particularized trust and organizational capacity and that the inclusion of the

product term may actually diminish the explanatory power of the regression model. Outside of

the fact that the significance level of faith-based engagement is diminished, the coefficients for

this model closely resemble the coefficients already presented and discussed in Table 14. Given

that the particularized racial trust and organizational capacity interaction term does not achieve

significance, there is little reason to believe that the two measures interact to effect mean levels

of household recovery in New Orleans Neighborhoods. This test does not support H2b.

The tests for interaction effects among trust and organizational capacity lend modest

support to the idea that trust and organizational capacity interact to influence neighborhood

recovery. Tests for the interaction of generalized trust and organizational capacity clearly

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support H2 while tests for the interaction of particularized racial trust and organizational capacity

do not lend support to H2.

Table 15: Interaction Effects Models - Particularized Racial Trust

(unstandardized coefficients reported with standard errors in parentheses)				
	1		2	
Damage to Residence	-0.3470 ***	(0.4370)	-0.3500 ***	(0.0533)
Estimated Income	0.1320 **	(0.2300)	0.1370 **	(0.0599)
Education	0.1410 **	(0.2860)	0.1410 **	(0.0502)
Pct Non-Hispanic Black	0.0590	(0.0380)	0.0660	(0.1399)
Median Age	-0.0070 *	(0.1070)	-0.0080 *	(0.0042)
Oragnizational Capacity	0.1150 **	(0.2000)	0.1250 **	(0.0394)
Diversity Index	-0.1370	(0.0480)	-0.1370	(0.1757)
Informal Socializing	0.3650 ***	(0.2400)	0.3570 ***	(0.0933)
Faith-Based Engagement	0.3750 *	(0.1210)	0.3660 *	(0.2167)
Associational Involvement	-0.1490 **	(0.2300)	-0.1520 **	(0.0506)
Particularized Racial Trust	0.0400	(0.0620)	0.0460	(0.0386)
Particularized Trust*Organizational Capacity Interaction	-	-	0.0450	(0.0321)
Adj R^2	0.462		0.460	
N	180		180	
*p≤.1,**p≤.05,***p≤.001				

CHAPTER 5. DISCUSSION AND CONCLUSIONS

The results in Chapter 4 help delineate the circumstances under which different kinds of trust influence neighborhood recovery. Results suggest that the effects of generalized trust on recovery are not fixed and that neighborhood organizational capacity moderates the extent to which generalized trust influences neighborhood recovery. The interactional effects of organizational capacity and generalized trust reflect the compensatory nature of social resources. The interaction reveals that neighborhood organizational capacity matters less among neighborhoods with high generalized trust and matters more among neighborhoods with low generalized trust. In this way, high organizational capacity can compensate for low generalized trust.

5.1. DISCUSSION OF DIRECT EFFECTS

Regressions testing the direct effects of variables included in the general model of neighborhood recovery mostly support current research around disaster recovery. Consistent with findings from Hass et al. (1997) and (Yaui 2007), storm related damage was the strongest predictor of hurricane recovery in Orleans and St. Bernard Parish neighborhoods. The fact that storm damage was typically worse in less affluent areas (Weil 2011) and that recovery in these areas was slower also tends to support the idea that poverty and damage interact and have multiplicative negative effects on recovery outcomes (Norris et al. 2008). Evidence presented within this dissertation suggests that many of the same variables that impact recovery in terms of mental health (see Norris et al. 2008 and Benight, McFarlane and Norris 2006) also influence material recovery of neighborhoods. These variables include measures of economic and human capital, as well as social resources.

Neighborhood economic resources are the second most powerful predictor of neighborhood recovery. The effects of economic resources on recovery are well documented (see Sawada and Shimizutani 2008, Aldrich 2010, Sherrieb et al. 2010). Better financial resources support better recovery. The lack of financial resources is really the jumping off point for the rest of this analysis. Where economic resources were adequate for recovery, social resources were less important for neighborhood recovery; and where economic resources were inadequate, social resources were more important for neighborhood recovery (Weil 2011).

Education is nearly as strong a predictor of recovery as income. These two measures are of course highly correlated where people who are more highly educated also tend to have higher incomes, but the direct effects of education on recovery suggest that mean levels of education had unique effects on recovery, not explained by income. As Norris et al. (2008) suggest, better human capital in a neighborhood supports more effective recovery because it helps neighborhoods identify, cultivate, and mobilize recovery relevant resources like knowledge, connections and skills. These "adaptive capacities" (Norris et al. 2008) likely help support better organizational capacity as well.

After damage, education, income, and informal socializing, organizational capacity is the strongest predictor of recovery in the direct effects model. While organizational capacity is also highly correlated with income (.313**) and education (.393**), this resource too has its own unique and direct effects on recovery. While mean level of education is a reflection of the aggregation of individual levels of human capital in a neighborhood, organizational capacity is more representative of a neighborhood level feature. In other words, organizational capacity exists apart from individual level attributes and instead reflects a neighborhood level resource.

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Mean level of education is certainly important, but it would seem that a neighborhood could have a slightly lower level of education, and still have high quality leadership and effective neighborhood organizations. That said, a higher mean level of education also likely means that there is a larger pool of high skilled residents in a neighborhood. A "deeper bench", so to speak, to draw on with more people capable of effectively carrying out neighborhood goals.

The tests in this analysis illustrate that lower levels of education and income can be compensated for with high organizational capacity. The quantitative data in this case are supported by our ethnographic work in New Orleans. We found that neighborhood leadership could be effective as long as there was a base of committed and capable residents. While a neighborhood's "bench" may not have been "deep" (with a larger base of highly skilled residents), as long as they had a handful of capable and committed residents, those residents could help improve recovery outcomes beyond what their economic and human capital would have predicted alone. What this also likely means is that recovery in such areas is a more fragile endeavor; meaning that if these neighborhoods were to somehow lose a few of these key residents, they may lose ground in a way that a neighborhood with greater numbers of highly capable and committed residents might not. In this respect, the ideal situation is represented when leadership can effectively delegate to a greater number of highly skilled and engaged residents. It would also seem that high levels of the right forms of trust are also capable of helping improve neighborhood outcomes, but I will return to this result in a moment.

Assessing the effects of the three measures of social capital is fairly complicated. The effects of these variables tend to be pulled in different directions with the addition of different

controls and when other independent variables are included in the model; as such the effects of the social capital variables on recovery are not easily interpretable.

The most consistent measure of social capital in this analysis is informal socializing. While informal socializing does not seem to have an effect without controls, once controls for damage and the percentage of African American families in a neighborhood are included, its direct effects snap into focus. Effects from informal socializing become even more pronounced with the inclusion of the other independent variables in the study. This suggests that in neighborhoods where the average level of resident participation in activities with family, friends and neighbors, including hobbies and public meetings, was higher neighborhood recovery tended to be stronger, at least in terms of mean levels of household recovery. This result provides support for the idea that where there are frequent interactions, strong social connections, and cooperative relations, there tends to be stronger recovery. This result tends to support the communitarian position on social capital.

The story around faith-based engagement seems to be more complicated. Recall that without controls, faith-based engagement is negatively and strongly associated with neighborhood recovery. When race and damage are controlled for, its sign flips while dropping in level of statistical significance. The fact that the sign flips with controls seems to be a feature of controlling for the percentage of African American households in a neighborhood. Predominately African American neighborhoods scored higher on the faith-based engagement measure (Weil et al. in preparation) and also tended to receive higher levels of storm damage. Importantly, the effects of race lose their significance, while faith-based engagement retains significance in the full model of direct effects. This suggest that once social status is controlled

for, faith-based engagement tends to support stronger neighborhood recovery. Religious institutions and communities were highly active and engaged in recovery efforts throughout the city (Weil 2011) and religiosity in the Greater New Orleans area is high (Chen et al. 2007). Many residents were engaged in faith communities that helped in the recovery. These faith communities often extended beyond neighborhood boundaries, but even still, it seems as though neighborhoods reaped benefits from having residents who were engaged in faith-based groups.

The fact that both informal socializing and faith-based engagement seem to support recovery may suggest that association is what is important and that the medium of association is less important, at least for this measure of recovery. That said, it becomes more difficult to conclude this when we consider the effects of the associational involvement measure. In the full models, associational involvement is negatively associated with higher mean levels of household recovery. But the fact that the sign for associational involvement flips and that it falls in and out of significance with the inclusion of various independent variables may suggest that the measure is interacting with other variables of interest. Given that associational involvement does not become significant until mean neighborhood social status (education and income) and neighborhood organizational capacity are included in the model leaves open the possibility that associational involvement could be interacting with either or both social status or organizational capacity. I will return this idea in a moment when I suggest avenues for future analysis.

The direct effects of trust on neighborhood recovery were also fairly complex. Both generalized trust and particularized racial trust significantly predicted recovery without controls; higher generalized trust tended to support recovery and higher particularized racial trust tended to hinder recovery. Once the controls for the reduced model were introduced, only generalized

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trust significantly predicted neighborhood recovery. Neither measure significantly influenced

recovery once status, organizational capacity, diversity and social capital were controlled. The

fact that generalized trust was significant and positive before controlling for income and

education is revealing and suggests how interpersonal trust may work broadly. Like social

capital and organizational capacity, interpersonal forms of trust represent potential social

resources for recovery; meaning that they are conditionally and variably important for recovery

outcomes. Where financial resources are sufficient for neighborhood recovery, the effects of

social capital, interpersonal trust and organizational capacity are less visible. So while the

structure of social relations in a neighborhood may produce and reflect high social capital, high

organizational capacity, or high interpersonal trust, these potential resources may not be

necessary for neighborhood recovery when individual assets are sufficient. The effects of social

resources in affluent neighborhoods are not dormant, they are just not required in the same way

they are in less affluent neighborhoods. The effects of social resources on recovery are much

more pronounced in neighborhoods that are not able to rely on financial resources. Models

examining the interacting effects of organizational capacity and generalized trust lend support to

these assertions.

5.2. DISCUSSION OF INTERACTOIN EFFECTS

The substantive meanings of the interaction effects of different forms of interpersonal

trust and organizational capacity have been discussed at length in Chapter 4. To recap, only the

generalized trust and organizational capacity interaction significantly improved the full direct

effects model predicting neighborhood recovery. The generalized trust and organizational

capacity interaction demonstrated that organizational capacity matters less among neighborhoods

with high generalized trust and matters more among neighborhoods with low generalized trust. On the one hand, this means that having higher or lower neighborhood organizational capacity matters less when the mean level of generalized trust is higher. On the other hand it means that neighborhood organizational capacity can more than compensate for better recovery in low generalized trust neighborhoods. This finding lends some support to communitarian arguments that trust can help create or enhance cooperative relations, but it lends stronger support to the Durkheimian scholars who suggest that institutional norms are more important for outcomes in modern societies. It seems as though association and cooperation are important, but that achieving, or using these resources may be better supported via organizational capacity than by a generalized orientation to trust.

While the picture here is already fairly complicated, it is of course possible that these relationships are even more complex and that the effects of this interaction are more profound under certain circumstances. My conceptual framework assumes that social resources were more important among neighborhoods where material and financial resources were insufficient for recovery. In this portion of the discussion, I wish to focus on the idea that the effects of some social resources on recovery may be more pronounced in neighborhoods that are not able to rely on financial resources for recovery. While the interaction effects I examined do not explicitly test the hypothesis that social resources only kick in below some level of neighborhood resources, the tests in this study do offer insight into how and why this might be the case. Neighborhood organizational capacity and the mean level of income in a neighborhood are highly correlated (.313**). Importantly they have their own unique effects, but their high correlation suggests that there is a fair amount of overlap between neighborhoods that have high

organizational capacity, and neighborhoods that have high mean income. The same could be said about neighborhoods and some forms of social capital; neighborhoods with higher income are also more likely to possess greater social capital (Wacquant and Wilson 1989). This is why it may be important to examine subsamples of recovering neighborhoods, separating neighborhoods on the basis of either having or not having the material resources for recovery. In the case of the interaction of generalized trust and organizational capacity, it may be that this interaction is really only important among neighborhoods that do not have the resources for recovery. As such, the statistical relationship between the interacting variables may be more pronounced or perhaps altered by another level of interaction. It is possible that by comparing neighborhoods with the financial resources to recover, to neighborhoods without the financial resources to recover, that the relationships between various social resources become clearer. The suggestion here is that there may actually be a three way interaction between generalized trust, organizational capacity and material resources. How I imagine the relationship playing out is that the interaction between generalized trust and organizational capacity would likely achieve significance among the lower resourced neighborhoods and that the interaction would not achieve significance among the higher resourced neighborhoods. I would also hypothesize that among the lower resourced neighborhoods the interaction would show that either high organizational capacity or high generalized trust were capable of supporting better neighborhood recovery.

It may also be the case that particularized trust has different affects among neighborhoods possessing more or fewer material resources for recovery. Recall my suggestions for how particularized trust was likely to work given the extent of material resources available for

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neighborhood recovery. Where economic assets were more abundant, neighborhood recovery

may have actually been enhanced by a particularized form of trust; and where economic assets

were less abundant, particularized trust likely impeded neighborhood recovery. Given that the

test for an interaction between particularized racial trust and organizational capacity was not

significant, it may be that the effects of particularized racial trust are not so much a function of

high or low organizational capacity, but rather high or low economic capital. I intend to test this

very idea in future analyses. Cohesion via high particularized racial trust is not pro-social, but by

examining its effects in different neighborhood contexts, we may enhance our understanding of

how between neighborhood relationships work. High particularized racial trust may lend itself to

the consolidation and monopolization of resources. In other words, having high particularized

racial trust in a neighborhood may reflect a zero sum approach to neighborhood recovery. While

most of our ethnographic experiences suggest that neighborhoods tended to work together

cooperatively, it may be that high particularized racial trust in a higher resource neighborhood

may have actually hindered the recovery of surrounding neighborhoods. This possibility should

also be explored in future analyses.

Although I was unable to examine the effects of strategic institutional trust in this

dissertation (see limitations section), preliminary analyses of indicators of the concept suggest

that higher levels of strategic institutional trust tend to improve neighborhood recovery. Like

generalized trust, I expect to see interactions between strategic trust, organizational capacity and

financial resources. Given the conceptual framework already developed, it seems possible that

strategic institutional trust interacts with organizational capacity in the recovery process. In large

part due to the fact that these indicators assess strategic trust in institutional agents, it is likely

that this interaction may be more important among neighborhoods that tend to rely more on institutional integration for day to day living and also tend to have more resources for recovery.

Closer examinations of neighborhood diversity may also yield interesting findings. It was suggested within Chapter 2 (pg. 37) that higher neighborhood racial diversity may sometimes have been an asset and other times a hindrance to neighborhood recovery. While the measure of diversity did not achieve statistical significance in the full models, there remains the possibility that diversity interacts with different forms of trust, or organizational capacity. These tests may shed further light on whether, how and when neighborhood racial diversity supports neighborhood recovery. It may be the case that neighborhood diversity represents another potential social resource for recovery, though I would hypothesize that diversity may only be effective when either organizational capacity or interpersonal trust are high.

Finally, with respect to interactions between various potential sources of social capital, it will be important to examine whether either trust or capacity significantly interacts with social capital variables, and also if these relationships play out differently given levels of neighborhood affluence or economic disadvantage. These tests may provide further insight into how different kinds of social connections, association, and cooperation operate within different neighborhood contexts. Given the tests in this dissertation, it seems as though neighborhoods may be able to derive greater benefits for recovery from potential sources of social capital if they either have high organizational capacity or high trust, but that the neighborhood context might determine when these interactions occur. It may be that potential sources of social capital are enhanced via high interpersonal trust or high organizational capacity. In future research, I will seek to

examine the extent to which different forms of social capital are influenced by higher organizational capacity or by higher interpersonal trust.

5.3. LIMITATIONS

There were a number of limitations that should be acknowledged before concluding this dissertation. While I was able to examine the unique contributions from different forms of cognitive (e.g. trust) and structural (e.g. level of associational involvement) social resources for material recovery at the neighborhood level, I was unable to empirically test two forms of trust that were of particular interest: strategic institutional trust and particularized trust based on social class.

In the case of strategic institutional trust, analyses were possible, but there were issues with the sample I was unable to fully vet in time to complete this study. The measure was operationalized, but it was operationalized using survey questions that we only began asking respondents after the first few years of surveying. As such, we do not have the same density of responses in each neighborhood for the strategic trust measure as do we for the rest of the survey items I analyzed. I am confident that in the future, I will be able to report on the effects of strategic trust using this data set, but further examination of the sample will be required in order to do so with high certainty that results are meaningful and not the result of statistical aberration.

In the case of particularized trust based on social class, operationalization was more problematic because we did not explicitly ask respondents about how much they trust people who do not belong to their own social class. As such, there was no out-group distrust measure to draw from. Future analyses may attempt to include approximations of class based particularized trust.

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5.4. CONCLUSIONS

This research provides a foundation for understanding how trust influences disaster recovery. Findings suggest that trust may be conditionally important for neighborhood recovery. These findings are consistent with the growing literature that focuses on trust outside of the context of disaster recovery. A growing number of social scientist suggest that trust is not absolutely necessary for achieving cooperative relations (Cook and Hardin 2001, Cook, Hardin and Levi 2007, Portes and Vickstrom 2011). It would seem that this suggestion extends into processes within neighborhoods dealing with hurricane recovery. Regression analyses of neighborhood level data illustrate that trust may only be important for neighborhoods where organizational capacity is low. These findings suggest how cooperative relations and other potentially beneficial structures of social relations can be supported either through organizational capacity or through trust. Moreover, these findings suggest that of the two methods for achieving effective cooperation, organizational capacity may be relatively more advantageous than interpersonal trust for hurricane recovery outcomes. Cook, Hardin and Levi (2005) suggest that today, cooperative relations are generally less based on interpersonal trust and more on institutional arrangements and on the norms they create. Drawing heavily on Durkheim, Cook and Hardin (2001) posit that "long-term changes from small communities to mass urban complexes" have diminished the importance of interpersonal trust, relative to the importance of institutional integration.[34] At least with respect to mean levels of household recovery, it would

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[34] Interestingly Levi (2001) suggests that distrust may actually be a good thing in certain situations because it can serve to stimulate "the development of improved institutions." According to ethnographic interviews with neighborhood people and leadership, this situation

appear as though higher neighborhood levels of generalized trust are likely beneficial; though the effects of generalized trust may only have been measurably influential among neighborhoods with low organizational capacity.

I took pains within this study to distinguish between interpersonal forms of trust and organizational capacity, but in some respects, the two represent opposite sides of the same coin. On the one hand organizational capacity represents the quality of neighborhood leadership and neighborhood organizations. This is distinctly a neighborhood level quality. That said, I measured the concept by aggregating individual assessments of neighborhood leadership. Though organizational capacity is not about interpersonal trust relations or a gauge of a neighborhood's general orientation toward others, the measure does say something about the confidence residents place in their leadership as a response to how effective their leaders have been in helping the neighborhood recover. In this way, organizational capacity is akin to institutional and strategic forms of trust. For example, if I think my leadership is doing a good job representing my interests and the interests of my neighborhood, I'm probably more likely to trust them in situations where my own interests and my neighborhood's interest are at stake. Again, neighborhood organizational capacity is a measure of the quality of leadership in a neighborhood but it is also a reflection of the confidence residents place in those leaders and their organizations.

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may have played out at the level of city government. By the accounts of many residents and community leaders, the city has improved and a renewed level of confidence seems to have grown from a baseline that approached zero directly after the storm.

The distinction between affective, interpersonal trust and faith in leadership is important, but the two can be understood as different dimensions of the concept of "trust". In this way "trust" is still that mechanism that helps society work. The distinction is important because it highlights the idea that different mechanisms for cooperation may be at work within different structures of social relations. Drawing on the symbolic interactionist perspective, I have suggested that the ways in which people organize themselves for daily life influence which mechanism are most likely at play in neighborhood level processes. Future research should explicitly explore the extent to which people's daily interactions influence neighborhood organizational capacity and different forms of trust.

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APPENDICES

APPENDIX 1. SCALE CONSTRUCTION FOR PARTICULARIZED RACIAL TRUST

Scale Components from the LSU Disaster Recovery Survey for the particularized racial trust measure.

Generalized Trust

GTdummy: Generalized Trust dummy variable where "1" reflects that a respondent believes that "most people can be trusted".

In-Group Trust

IGTR: The level of trust a respondent expressed for people of their own race. Respondents could score between 0 (low IGTR) and 3 (high IGTR).

For example, if an African American respondent indicated that they trust other African Americans "not at all", this respondent would score an In-Group trust score of "0".

Out-Group Distrust

OGDR: The mean level of distrust a respondent expressed for people other than their own race. Respondents could score between 0 (low OGDR) and 3 (high OGDR).

For example, if an African American respondent expressed that she did trusted whites "not at all", Asians "not at all" and Hispanics "not at all", her mean level of distrust would be a "3".

Scale construction

The following is syntax for creating the particularized trust measure (PrtR). The syntax can be read logically as a series of if/then statements. For example the first line indicates the following: if a respondent is not a generalized truster (GTdummy = 0), and they have low in-group racial trust (igtr = 0) and they have low out-group distrust (OGDR >= 0.0000000 and OGDR <= 0.75) then their particularized racial trust score is 0. Each 4 lines of the syntax reflects a different tier of level of particularized racial trust. Each tier reflect an increasing intensity of in-group trust at each level of out-group distrust.

```
if ( GTdummy= 0 and igtr = 0 and OGDR >= 0.0000000 and OGDR <= 0.75)    PrtR = 0.
if ( GTdummy= 0 and igtr = 0 and OGDR >= 0.7500009 and OGDR <= 1.50)    PrtR = 0.
if ( GTdummy= 0 and igtr = 0 and OGDR >= 1.5000009 and OGDR <= 2.25)    PrtR = 0.
if ( GTdummy= 0 and igtr = 0 and OGDR >= 2.2500009 and OGDR <= 3.00)    PrtR = 0.
```

if (GTdummy= 0 and igtr = 1 and OGDR >= 0.0000000 and OGDR <= 0.75)   PrtR = 1.
if (GTdummy= 0 and igtr = 1 and OGDR >= 0.7500009 and OGDR <= 1.50)   PrtR = 2.
if (GTdummy= 0 and igtr = 1 and OGDR >= 1.5000009 and OGDR <= 2.25)   PrtR = 3.
if (GTdummy= 0 and igtr = 1 and OGDR >= 2.2500009 and OGDR <= 3.00)   PrtR = 4.

if (GTdummy= 0 and igtr = 2 and OGDR >= 0.0000000 and OGDR <= 0.75)   PrtR = 2.
if (GTdummy= 0 and igtr = 2 and OGDR >= 0.7500009 and OGDR <= 1.50)   PrtR = 4.
if (GTdummy= 0 and igtr = 2 and OGDR >= 1.5000009 and OGDR <= 2.25)   PrtR = 6.
if (GTdummy= 0 and igtr = 2 and OGDR >= 2.2500009 and OGDR <= 3.00)   PrtR = 8.

if (GTdummy= 0 and igtr = 3 and OGDR >= 0.0000000 and OGDR <= 0.75)   PrtR = 3.
if (GTdummy= 0 and igtr = 3 and OGDR >= 0.7500009 and OGDR <= 1.50)   PrtR = 6.
if (GTdummy= 0 and igtr = 3 and OGDR >= 1.5000009 and OGDR <= 2.25)   PrtR = 9.
if (GTdummy= 0 and igtr = 3 and OGDR >= 2.2500009 and OGDR <= 3.00)   PrtR = 12.

if (GTdummy= 1 and igtr = 0 and OGDR >= 0.0000000 and OGDR <= 0.75)   PrtR = 0.
if (GTdummy= 1 and igtr = 0 and OGDR >= 0.7500009 and OGDR <= 1.50)   PrtR = 0.
if (GTdummy= 1 and igtr = 0 and OGDR >= 1.5000009 and OGDR <= 2.25)   PrtR = 0.
if (GTdummy= 1 and igtr = 0 and OGDR >= 2.2500009 and OGDR <= 3.00)   PrtR = 0.

if (GTdummy= 1 and igtr = 1 and OGDR >= 0.0000000 and OGDR <= 0.75)   PrtR = 0.
if (GTdummy= 1 and igtr = 1 and OGDR >= 0.7500009 and OGDR <= 1.50)   PrtR = 0.
if (GTdummy= 1 and igtr = 1 and OGDR >= 1.5000009 and OGDR <= 2.25)   PrtR = 0.
if (GTdummy= 1 and igtr = 1 and OGDR >= 2.2500009 and OGDR <= 3.00)   PrtR = 0.

if (GTdummy= 1 and igtr = 2 and OGDR >= 0.0000000 and OGDR <= 0.75)   PrtR = 0.
if (GTdummy= 1 and igtr = 2 and OGDR >= 0.7500009 and OGDR <= 1.50)   PrtR = 0.
if (GTdummy= 1 and igtr = 2 and OGDR >= 1.5000009 and OGDR <= 2.25)   PrtR = 0.
if (GTdummy= 1 and igtr = 2 and OGDR >= 2.2500009 and OGDR <= 3.00)   PrtR = 0.

if (GTdummy= 1 and igtr = 3 and OGDR >= 0.0000000 and OGDR <= 0.75)   PrtR = 0.
if (GTdummy= 1 and igtr = 3 and OGDR >= 0.7500009 and OGDR <= 1.50)   PrtR = 0.
if (GTdummy= 1 and igtr = 3 and OGDR >= 1.5000009 and OGDR <= 2.25)   PrtR = 0.
if (GTdummy= 1 and igtr = 3 and OGDR >= 2.2500009 and OGDR <= 3.00)   PrtR = 0.

APPENDIX 2. STRATEGIC INSTITUTIONAL TRUST INDICATORS

The strategic trust measure is another composite measure drawn from the Likert-type scale battery of questions asking respondents "how much do you trust the following groups of people". Strategic trust reflects the combination of responses to the following four question categories from the trust question battery: "The police in your local community", "Building Contractors, Construction Workers", "Bankers, Mortgage and Finance Officers", "Government Employees". Responses are reverse coded and the scores from the four categories are averaged together to produce an individual's strategic trust score. Only respondents answering at least three of the four institutional/strategic trust questions are included in analyses.

Because several of the questions used to measure strategic trust were only asked in waves of the survey going out after 2009, not every census tract is suitable for analysis. In future analyses I will run appropriate tests to determine which tracts may be included in an analysis of effects from strategic institutional trust, based on whether or not a tract contained enough cases with observed values for the indicators comprising the strategic trust measure.

Table A3: Iterated Models for Social Capital Variables

(unstandardized coefficients reported with standard errors in parentheses)						
	Without Controls	With Controls	Without Controls	With Controls	Without Controls	With Controls
Damage to Residence	-	-0.395 *** (0.0500)	-	-0.4 *** (0.0698)	-	-0.38 *** (0.0520)
Pct Non-Hispanic Black	-	-0.379 *** (0.1030)	-	-0.47 *** (0.1060)	-	-0.4 *** (0.1124)
Median Age	-	-0.004 (0.0040)	-	-0.01 (0.0040)	-	-0.01 (0.0040)
Informal Socializing	0.293 ** (0.1070)	0.252 ** (0.0900)			-	-
Faith-Based Engagement	-	-	-0.435 ** (0.2270)	0.276 (0.2060)	-	-
Associational Involvement	-	-	-	-	0.166 ** (0.0470)	0.036 (0.0523)
Adj R^2	0.034	0.350	0.014	0.328	0.058	0.324
N	187	187	187	187	187	187
*p?.1,**p?.05,***p?.001						

THE VITA

David Traweek Maddox was born in Bitburg Air Base, Germany. He received his high school diploma from Runnels School in Baton Rouge, Louisiana in 1999. David would go on to attend Louisiana State University where he earned his Bachelor of Arts Degree in Applied Sociology in 2005 and his Master of Arts Degree in Sociology in 2010. He anticipates being awarded the Doctorate Degree in Sociology from Louisiana State University in December 2013.