



**NAVAL  
POSTGRADUATE  
SCHOOL**

**MONTEREY, CALIFORNIA**

**THESIS**

**THEORETICAL FOUNDATIONS OF COMMUNITY  
DISASTER RESILIENCE**

by

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June 2021

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<b>REPORT DOCUMENTATION PAGE</b>			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC, 20503.				
<b>1. AGENCY USE ONLY (Leave blank)</b>	<b>2. REPORT DATE</b> June 2021	<b>3. REPORT TYPE AND DATES COVERED</b> Master's thesis		
<b>4. TITLE AND SUBTITLE</b> THEORETICAL FOUNDATIONS OF COMMUNITY DISASTER RESILIENCE			<b>5. FUNDING NUMBERS</b>	
<b>6. AUTHOR(S)</b> Jill M. Barnes				
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> Naval Postgraduate School Monterey, CA 93943-5000			<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> N/A			<b>10. SPONSORING / MONITORING AGENCY REPORT NUMBER</b>	
<b>11. SUPPLEMENTARY NOTES</b> The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
<b>12a. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for public release. Distribution is unlimited.			<b>12b. DISTRIBUTION CODE</b> A	
<b>13. ABSTRACT (maximum 200 words)</b>  The relatively recent theory of community disaster resilience (CDR) would benefit from an exploration of the established theories that form its basis. This study proposes that the approach embodied by social identity theory (SIT) from social psychology aligns with the tenets of CDR. Validating CDR through SIT supports further research in the former theory as well as informs its practical applications. This thesis presents an extensive review of academic research in both theories and qualitative analysis, highlighting connections between the two fields and providing context for future CDR researchers. Finally, this thesis offers ways to make CDR-measuring tools more effective and adaptable, so they can be used to improve a community's CDR before a disaster and customized to meet the needs of specific communities.				
<b>14. SUBJECT TERMS</b> resilience, social psychology, social identity, social identity theory, SIT, community disaster resilience, CDR			<b>15. NUMBER OF PAGES</b> 103	
			<b>16. PRICE CODE</b>	
<b>17. SECURITY CLASSIFICATION OF REPORT</b> Unclassified	<b>18. SECURITY CLASSIFICATION OF THIS PAGE</b> Unclassified	<b>19. SECURITY CLASSIFICATION OF ABSTRACT</b> Unclassified	<b>20. LIMITATION OF ABSTRACT</b> UU	

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**THEORETICAL FOUNDATIONS OF COMMUNITY DISASTER RESILIENCE**

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requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES  
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL  
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## **ABSTRACT**

The relatively recent theory of community disaster resilience (CDR) would benefit from an exploration of the established theories that form its basis. This study proposes that the approach embodied by social identity theory (SIT) from social psychology aligns with the tenets of CDR. Validating CDR through SIT supports further research in the former theory as well as informs its practical applications. This thesis presents an extensive review of academic research in both theories and qualitative analysis, highlighting connections between the two fields and providing context for future CDR researchers. Finally, this thesis offers ways to make CDR-measuring tools more effective and adaptable, so they can be used to improve a community's CDR before a disaster and customized to meet the needs of specific communities.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

CDR	community disaster resilience
CERT	Community Emergency Response Team
MYN	Map Your Neighborhood
SCT	social categorization theory
SIPI	social and personal identities
SIMCA	social identity model of collective action
SIT	social identity theory
SSIM	self-selected social identification measure

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## EXECUTIVE SUMMARY

This thesis establishes a connection between community disaster resilience (CDR) and social identity theory (SIT) using a qualitative document analysis and posits that the connection can improve disaster outcomes. The association between the relatively new notion of disaster resilience and long-established theories in social psychology is not documented well in research, and without it, resilience lacks a sturdy foundation and much-needed context. This thesis builds that connection. Little has been studied about methods to increase the effectiveness of the resilience strategies and tools that do exist, and establishing the link between resilience and social psychology can provide a lens from which future studies of resilience effectiveness can be conducted. Finding commonalities among definitions and domains will help move the practical application of CDR forward. If CDR is measured, communities will then be able to implement programs to improve it. Through examining the literature, this thesis makes recommendations about how to improve CDR in a community and how to improve resilience tools and strategies.

Two research questions molded this thesis: Do existing theories in social psychology validate CDR, and how can existing social psychology theories be used to adapt CDR tools to meet the needs of a specific community? These questions were explored through a qualitative study, conducted through an extensive academic literature and document analysis of published, peer-reviewed, academic research in both resilience and social psychology to determine the extent of any connections between the two fields. Resulting affiliations were then probed to determine whether social psychology supports the concept and value of CDR.

The intended output of this thesis was twofold. The primary purpose was the purely academic exercise of conducting textual analysis to substantiate CDR and establish whether the theories of social psychology apply to it. The second was the more pragmatic, practitioner-oriented purpose of creating recommendations to improve the effectiveness of CDR tools in the field. The literature review shows the evolution and current state of research surrounding disaster resilience and explores trends and gaps in established social

psychology theories, including the prominent SIT. Together, these topics provided a solid foundation for the data analysis conducted for this thesis.

Resilience has become a prevalent concept in recent disaster-related academic literature and has “burst onto policy agendas in the last few years,” as described by Susan Cutter, director of the Hazards and Vulnerability Research Institute at the University of South Carolina.<sup>1</sup> Disaster resilience has been analyzed at the individual, building, community, and system levels, defined through capacities or capabilities and as an outcome or a process. CDR cannot easily be studied without studying what makes a group of people a community, the dynamics between the community and its members, and the potential influence on those dynamics during a disaster or while preparing for one. Social psychology—the study of human social interaction—provides a useful lens through which to view these dynamics.<sup>2</sup> Identity is one of the core issues of social psychology, and the social identity approach is well established and often researched.<sup>3</sup> This approach is the foremost explanatory framework for processes among members of the same group and relations between groups.<sup>4</sup> Social identity is the foundation of all beneficial human social interactions—including motivation, lending assistance, communication, faith in other people, leadership, group alignment, and association.<sup>5</sup> Social identity is also the foundation

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<sup>1</sup> Susan Cutter, “The Landscape of Disaster Resilience Indicators in the USA,” *Natural Hazards* 80, no. 2 (January 2016): 741, <https://doi.org/10.1007/s11069-015-1993-2>.

<sup>2</sup> Kenneth J. Gergen, “Social Psychology as History,” *Journal of Personality and Social Psychology* 26, no. 2 (1973): 309–20, <http://dx.doi.org/10.1037/h0034436>.

<sup>3</sup> Henri Tajfel, *Differentiation between Social Groups: Studies in the Social Psychology of Intergroup Relations* (London: Academic Press, 1978).

<sup>4</sup> Richard J. Crisp and Sarah R. Beck, “Reducing Intergroup Bias: The Moderating Role of Ingroup Identification,” *Group Processes & Intergroup Relations* 8, no. 2 (2005): 173–85, <https://doi.org/10.1177/1368430205051066>.

<sup>5</sup> Ray Forrest and Ade Kearns, “Social Cohesion, Social Capital and the Neighbourhood,” *Urban Studies* 38 no. 12 (2001): 2125–43.

upon which people identify and self-select roles and exert collective influence.<sup>6</sup> SIT is a prominent theory in social psychology and is applied in a wide variety of circumstances and populations. Its concrete markers make finding and explaining connections with CDR easier, theoretically. SIT can provide a useful framework for explaining the human elements in all phases of the disaster cycle. Moreover, the theory yields evidence that community resilience is a useful approach to disaster management, as well as the reasoning to apply it in a community to improve the outcome of a disaster.

Textual analysis and interpretation of academic literature show the relationships and commonalities between social psychology and CDR. Data categories were created within each academic field of literature studied to better find commonalities and connections, each chosen when frequency of use became evident. This analysis showed that multiple features connect the two theories. The most prevalent connection is the concept of social capital, which concerns the social ties and networks of a community that can act as force multipliers in positively affecting the outcome of a disaster. Another common concept that informs both theories is self-categorization—the groups to which a person chooses to belong—which can be particularly salient during a disaster, as spontaneous groups arise to manage disaster response in a community. The concept of collective action—those actions taken by a group as an entity—also applies to both theories and can be particularly influential during disaster response. In addition, the two theories have some related assessment variables, contributing to the work of determining the impact of CDR or SIT. The findings show many shared commonalities, providing evidence that

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<sup>6</sup> John Drury and Steve Reicher, “The Intergroup Dynamics of Collective Empowerment: Substantiating the Social Identity Model of Crowd Behavior,” *Group Processes & Intergroup Relations* 2, no. 4 (October 1999): 381–402, <https://doi.org/10.1177/1368430299024005>; Stephen Reicher and S. Alexander Haslam, “Beyond Help: A Social Psychology of Collective Solidarity and Social Cohesion,” in *The Psychology of Prosocial Behavior: Group Processes, Intergroup Relations, and Helping*, ed. S. Stürmer and M. Snyder (Chichester, UK: Wiley-Blackwell, 2010), 289–309; John C. Turner and Penelope J. Oakes, “The Significance of the Social Identity Concept for Social Psychology with Reference to Individualism, Interactionism and Social Influence,” *British Journal of Social Psychology* 25, no. 6 (1986): 237–52, <https://doi.org/10.1111/j.2044-8309.1986.tb00732.x>.

SIT can be used to understand CDR.<sup>7</sup> The findings have practical application for working with specific communities to improve disaster outcomes.

Studying CDR and SIT together can be beneficial in effecting change in both fields, as increasing CDR in a community can be accomplished through measures aimed at the group as well as individual members of the community. This thesis connects several aspects of social identity and CDR, implying that SIT may amplify positive outcomes related to CDR and apply to disaster preparedness, response, and recovery.

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<sup>7</sup> Stephen Reicher, “The Context of Social Identity: Domination, Resistance, and Change,” *Political Psychology* 25, no. 6 (2004): 921–45.

## **ACKNOWLEDGMENTS**

I would like to offer my deepest gratitude to Glen Woodbury for his guidance in the process and product, Dr. David Brannan for his insightful and reassuring feedback, and Dr. Libby Douvan for inspiring me for 40 years.

Sarah, I am grateful for your love and partnership, and that you did not quail when I started yet another degree. I promise this is the last one.

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# I. INTRODUCTION

## A. PROBLEM STATEMENT

The concept of resilience applied to the disaster realm has come to figure prominently in academic disaster literature and government disaster-related policy documents, but some aspects of resilience have not been adequately studied. The association between the relatively new notion of disaster resilience and long-established theories in social psychology is not documented well in research, and without it, resilience lacks a sturdy foundation and much-needed context. This thesis builds that connection. Emergency management practitioners are expected to address resilience in the field but lack tools that help them implement strategies and increase capacity for resilience. Little has been studied about methods to increase the effectiveness of the resilience strategies and tools that do exist, and establishing the link between resilience and social psychology can provide a lens from which future studies of resilience effectiveness can be conducted. Resilience is as meaningful a concept for practitioners as it is for researchers. It is important to address resilience in emergency management because it focuses on the human element in preparing for, responding to, and recovering from a disaster. Improving disaster resilience will have meaningful, positive consequences for communities that experience a disaster.

Research on community disaster resilience (CDR) lacks depth in several areas; some aspects have gone unstudied, and some concepts are inconsistently embraced across the research. Disaster resilience research even lacks a commonly accepted definition. Research articles exploring the elements of CDR each seem to redefine the domains of the concepts. Multiple means of measuring CDR also exist, but practical strategies and tools for field implementation are few.<sup>1</sup> This makes it difficult to apply the concepts of CDR in

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<sup>1</sup> Abbas Ostadtaghizadeh et al., “Community Disaster Resilience: A Systematic Review on Assessment Models and Tools,” *PLOS Currents Disasters*, no. 1 (2015), <https://doi.org/10.1371/currents.dis.f224ef8efbdfcf1d508dd0de4d8210ed>; Ayyoob Sharifi, “A Critical Review of Selected Tools for Assessing Community Resilience,” *Ecological Indicators* 69 (October 2016): 645, <https://doi.org/10.1016/j.ecolind.2016.05.023>.

neighborhoods that need it. Given that CDR can be subdivided into discrete strands and measured, the ability to increase CDR must also be fostered.

Finding commonalities among definitions and domains will help move the practical application of CDR forward. If CDR is measured, communities will then be able to implement programs to improve it. By examining the literature, this thesis makes recommendations about how to improve CDR in a community and how to improve resilience tools and strategies.

Any discussion of disaster research must first decide what is meant by the term “disaster.” Many disparate definitions of the word are in use, varying with context and scope. Broad definitions of disaster—such as a traumatic event collectively experienced, a situation where demands exceed capabilities, or a rare, unexpected incident—best suit this paper and the varying needs of the communities employing disaster resilience.<sup>2</sup> The term “emergency” is used in this thesis synonymously with the word disaster due to several overlapping definitions.

Using resilience to frame disaster preparedness and response is a promising practice that may help communities mitigate and plan for disasters. The disaster research community agrees that resilience works better as an ability or process than an outcome and as adaptability rather than stability. It does not, however, agree on a common definition for disaster resilience.<sup>3</sup> Among the definitions, two are used to frame the discussions in this thesis. Cutter et al. define it as “the ability of a social system to respond and recover from disasters and . . . those inherent conditions that allow the system to absorb impacts and cope with an event, as well as post-event adaptive processes that facilitate the ability of the

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<sup>2</sup> Federal Emergency Management Agency, *Planning for the Whole Community: Integrating and Coordinating the Access and Functional Needs of Children and Adults with Disabilities in Preparedness, Response, Recovery, and Mitigation* (Washington, DC: Federal Emergency Management Agency, 2011), 20; Marizen Ramirez et al., “Accountability and Assessment of Emergency Drill Performance at Schools,” *Family Community Health* 32, no. 2 (2009): 105–14, <https://doi.org/10.1097/FCH.0b013e3181994662>; Alexander C. McFarlane and Fran Norris, “Definitions and Concepts in Disaster Research,” in *Methods for Disaster Mental Health Research*, ed. Fran Norris et al. (New York: Guilford Press, 2006), 3–19.

<sup>3</sup> Joseph Mayunga, “Understanding and Applying the Concept of Community Disaster Resilience: A Capital-Based Approach” (paper presented at the Summer Academy for Social Vulnerability and Resilience Building, Munich, Germany, July 2007), 3.

social system to re-organize, change, and learn in response to a threat.”<sup>4</sup> The National Research Council defines disaster resilience more succinctly: “The ability to survive and cope with disaster impacts and rebound after those events.”<sup>5</sup>

## **B. ASSUMPTIONS**

This thesis makes several assumptions about the general philosophical nature and the specific concepts of this research. The most important of the philosophical assumptions is that the information within this thesis is true, given that great care has been taken to use credible, peer-reviewed sources of standing in the academic community. This thesis, as well as most of the research that informs it, draws on the ontological assumption that reality is subjective and that experience is context-driven.<sup>6</sup> This study is further framed by the philosophical understanding that the perspective of the participant matters and takes precedence over the perspective of the researcher.<sup>7</sup>

A key assumption arising from the work in this thesis recognizes that disaster resilience is a concept with value, both as an object of study and as applied in communities. Disaster resilience occupies a place of prominence in recent academic disaster literature and is known to have positive effects on the outcome of a disaster, which speak to the value of the concept.<sup>8</sup> An additional assumption is that it is worthwhile to raise levels of disaster resilience in a community. Lastly, connecting established psychological theory to disaster

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<sup>4</sup> Susan L. Cutter et al., “A Place-Based Model for Understanding Community Resilience to Natural Disasters,” *Global Environmental Change* 18, no. 4 (October 2008): 599, <https://doi.org/10.1016/j.gloenvcha.2008.07.013>.

<sup>5</sup> National Research Council, *Facing Hazards and Disasters: Understanding Human Dimensions* (Washington, DC: National Academies Press, 2006), 151.

<sup>6</sup> Birgitta Höijer, “Ontological Assumptions and Generalizations in Qualitative (Audience) Research,” *European Journal of Communication* 23, no. 3 (September 2008): 275–94, <https://doi.org/10.1177/0267323108092536>.

<sup>7</sup> Sharan Merriam, *Qualitative Research and Case Study Application in Education* (San Francisco: Jossey-Bass, 1997).

<sup>8</sup> Susan Cutter, “The Landscape of Disaster Resilience Indicators in the USA,” *Natural Hazards* 80, no. 2 (2016): 741–58, <https://doi.org/10.1007/s11069-015-1993-2>; Siambabala Bernard Manyena, “The Concept of Resilience Revisited,” *Disasters* 30, no. 4 (December 2006): 435, <https://doi.org/10.1111/j.0361-3666.2006.00331.x>.

resilience must also be recognized as an assumption of this study. These last two assumptions are foundational to the ideas that this thesis explores and the research questions that guide it. These assumptions embody the criteria set forth by Leedy and Ormrod, who state, “Assumptions are so basic that, without them, the research problem itself could not exist.”<sup>9</sup>

### **C. LIMITATIONS**

This thesis is also bound by several limitations. These limits include the lack of a common definition for several key terms critical to this study, notably the concept of CDR, as discussed above. Without a commonly applied definition, the researcher must choose one that appears to best fit the study. This action is connected to another limitation: confirmation bias. This common cognitive bias is defined as favoring information that supports one’s position and confirms the hypothesis of the study.<sup>10</sup> It can be mitigated during the research process through awareness, extensive reading, and conscious striving for objectivity. Another limitation in this thesis is that it is purely theoretical. There is no application of theory to provide data supporting the thesis, which is informed and limited by previously published literature on relevant topics. Finally, this thesis explores connections between existing bodies of research and their findings but does not contain original research.

### **D. RESEARCH QUESTIONS**

The following research questions molded this thesis:

1. Do existing theories in social psychology validate community disaster resilience?

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<sup>9</sup> Paul Leedy and Jeanne E. Ormrod, *Practical Research: Planning and Design*, 9th ed. (New York: Pearson, 2006), 62.

<sup>10</sup> Kathryn Roulston and Stephanie Anne Shelton, “Reconceptualizing Bias in Teaching Qualitative Research Methods,” *Qualitative Inquiry* 21, no. 4 (2015): 332–42, <https://doi.org/10.1177/1077800414563803>.

2. How can existing social psychology theories be used to adapt community disaster resilience tools to meet the needs of a specific community?

## **E. STRUCTURE AND SUMMARY OF METHODS USED**

The framework of this research is an extensive academic literature review in both resilience and social psychology to determine the extent of any connections between the two fields. Resulting affiliations are then probed to determine whether social psychology provides evidence that supports the concept and value of CDR. The findings of the study are then applied to increase the effectiveness of disaster resilience tools by customizing them for specific populations.

This research was constructed using qualitative methods, primarily through document analysis of published, peer-reviewed, academic research. Qualitative methods were appropriate for this research for several reasons. First, the interpretive, constructionist approach employed during the analysis process appears among the characteristics that define qualitative research, as does the descriptive nature of the findings in this thesis.<sup>11</sup> Second, this study was exploratory in nature, which also called for a qualitative approach.<sup>12</sup> The reflexive and iterative process of qualitative, narrative analysis was also well suited to this thesis.<sup>13</sup> Finally, disaster research frequently uses qualitative methodologies, which are helpful when conducting needs analyses with underserved communities that may benefit most from CDR.<sup>14</sup>

I applied textual analysis and interpretation to the readings to show the relationships and commonalities between social psychology and CDR. Then, I analyzed the academic literature in each area to find the overlapping elements and explicitly connect them. I kept

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<sup>11</sup> Merriam, *Qualitative Research*.

<sup>12</sup> John Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Los Angeles: SAGE, 2009).

<sup>13</sup> Joseph Alex Maxwell, *Qualitative Research Design: An Interactive Approach* (Thousand Oaks, CA: SAGE, 2005).

<sup>14</sup> Brenda Philips, "Qualitative Methods and Disaster Research," in *Methods of Disaster Research*, ed. Robert A. Stallings (Bloomington, IN: Xlibris, 2002).

careful notes of the shared aspects, utilizing tables and color-coding for pattern recognition, to visualize commonalities among the elements. I also noted which areas did not overlap between the two fields.

A theoretical framework has provided structure throughout this thesis, a component that strengthened the research process as well as the product, as it imparted a frame for every element of study.<sup>15</sup> It served as a guide throughout the work and provided context and support for each of the constructs of the research as well as the findings—although, as Glesne and Peshkin point out, qualitative research is informed by theory but not usually driven by it.<sup>16</sup> The framework explains the relationships among the studied phenomena and informs the research.<sup>17</sup>

A social constructivist lens is employed here, through which findings are explained and interpreted on multiple levels and through multiple iterations of analysis. Creswell conceives of social constructivism as a “worldview,” in which individuals develop meaning from their experiences moving and interacting with others in that world.<sup>18</sup> The theory holds that this purposeful construction by individuals is how people make sense of their lives and experiences.<sup>19</sup> The researcher then looks for complexity of views among common or disparate experiences. Researchers using this approach often study interactions among people and consider the context of actions in their interpretations, and connections inductively develop over the course of the study.<sup>20</sup> At another level of analysis, the researcher also accounts for her background and experiences during data analysis and uses findings to further her own sense of the world. These two factors have given rise to an

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<sup>15</sup> Cynthia Grant and Azadeh Osanloo, “Understanding, Selecting, and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for Your ‘House’,” *Administrative Issues Journal* 4, no. 2 (2014), <https://doi.org/10.5929/2014.4.2.9>.

<sup>16</sup> Grant and Osanloo, “Creating the Blueprint”; Corinne Glesne and Alan Peshkin, *Becoming Qualitative Researchers: An Introduction* (White Plains, NY: Longman, 1992).

<sup>17</sup> Maxwell, *Qualitative Research Design*.

<sup>18</sup> Creswell, *Research Design*.

<sup>19</sup> Merriam, *Qualitative Research*.

<sup>20</sup> Creswell, *Research Design*.

alternate term, the “interpretivist approach,” used synonymously with social constructivism.<sup>21</sup> The learning theory of social constructivism and the philosophical theory of social constructivism share a common definition; unless distinguished otherwise, in this thesis, “social constructivism” and “constructivism” refer to the philosophical theory used as a framework for the thesis and not to learning theory.

Social constructivism provides a framework for research from several fields, most notably education but also psychology, social work, nursing, international relations, and security studies.<sup>22</sup> In this thesis, social constructivism provides an appropriate frame on many levels and a unifying construct across strands of research including social identity theory (SIT) and CDR. SIT is generally framed using social constructivism, as by definition it explains an individual’s identity relative to one’s group membership, and those identities are shaped over time and change with experiences.<sup>23</sup> SIT is a good example of how people make sense of their lives and experiences, a phrase Creswell has used to define social constructivism but which equally applies to SIT.<sup>24</sup> Social constructivism is also a natural fit for CDR, given that both are social constructs. CDR includes the human potential for adaptability and improvement upon previous conditions, which is constructivist in nature.<sup>25</sup>

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<sup>21</sup> Glesne and Peshkin, *Becoming Qualitative Researchers*.

<sup>22</sup> Lisa Schweitzer and Max Stephenson, “Charting the Challenges and Paradoxes of Constructivism: A View from Professional Education,” *Teaching in Higher Education* 13, no. 5 (2008): 583–93, <https://doi.org/10.1080/13562510802334947>; Charisse Marshall, Richard Gelles, and Lani Nelson-Zlupko, “Making the Connection: Using Social Constructivist Theory to Examine Dialysis Social Workers,” *Psychology* (2017); Walter Carlsnaes, Thomas Risse, and Beth A. Simmons, *Handbook of International Relations* (London: SAGE, 2013), <http://dx.doi.org/10.4135/9781446247587>; Myriam Dunn Cavelty and Victor Mauer, eds., *Routledge Handbook of Security Studies* (London: Routledge, 2009).

<sup>23</sup> Mark Levine et al., “Identity and Emergency Intervention: How Social Group Membership and Inclusiveness of Group Boundaries Shapes Helping Behavior,” *Personality and Social Psychology Bulletin* 31, no. 5 (2005): 595–713; Rogers Brubaker and Frederick Cooper, “Beyond ‘Identity’,” *Theory and Society* 29, no. 1 (2000): 1–47, <https://www.jstor.org/stable/i356195>.

<sup>24</sup> Creswell, *Research Design*.

<sup>25</sup> Manyena, “Resilience Revisited,” 436; Douglas Paton and David Johnston, “Disasters and Communities: Vulnerability, Resilience and Preparedness,” *Disaster Prevention and Management* 10, no.4 (2001): 270–77.

Social constructivism is well suited to the constructs in this thesis and is embedded in the research questions. Making explicit connections and finding commonalities between the academic literature in the fields of CDR and social psychology create meaning that is intuitively constructivist and neatly addresses the problem statement, especially when the fields themselves have a strong social element. The significance of this thesis is also addressed by social constructivism because documenting how tools that increase disaster resilience can be improved is a further iteration of the social and philosophical connections between the two studied fields. Those connections can then be applied to the tools to find connections and areas for improvement there. Researchers and practitioners can then create better disaster resilience tools and improve existing ones. Ultimately, improved resilience tools can be created, resolving the purpose of this research. Each level of discovery informs the next and contributes to human understanding of the world in a quintessentially social constructivist fashion.

The intended output of this thesis was twofold. The primary purpose was the purely academic exercise of conducting textual analysis to establish whether the theories of social psychology apply to CDR and, if so, which frame it best. This work was conducted to provide CDR substantiation from a well-established, widely accepted social science to the benefit of both social psychology and CDR. The second was the pragmatic, practitioner-oriented purpose behind establishing the links between the two fields: creating recommendations for improving the effectiveness of CDR tools. With the knowledge that social psychology and CDR are connected, and using the information explicated in this thesis, researchers and practitioners may improve the effectiveness of existing tools designed to advance CDR and create better, tailored tools to measure CDR specifically.

## **F. OVERVIEW OF UPCOMING CHAPTERS**

Chapter II contains the literature review, first exploring the academic works on CDR and then examining SIT and related concepts. Chapter III discusses the qualitative methods used to conduct the research informing this thesis, such as textual analysis and interpretation. Chapter IV connects the theories through common features, providing evidence that the established social psychology theory of SIT validates the newer theory

of CDR through those commonalities. This analysis is followed by recommendations in Chapter V intended to increase CDR and the effectiveness of CDR tools. This approach brings academic value by connecting two fields of study, as well as practical value by assisting emergency managers and local government with a means of improving disaster outcome for communities.

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## II. LITERATURE REVIEW

This literature review shows the evolution and current state of research surrounding disaster resilience. Commonalities—such as agreement among researchers that resilience is more than vulnerability—are discussed. Divergent views on resilience are also examined, including the myriad definitions, the proper framework, and the inclusion of adaptability in a resilience context. This chapter also explains the context for key definitions used in this thesis and discusses established social psychology theories, including the prominent SIT, trends, and gaps. Lastly, the literature review discusses related learning theories and the place of social constructivism in the knowledge acquisition process. Together, these topics provide a solid foundation for the data analysis presented in this thesis.

### A. RESILIENCE

This literature review begins by defining terms that are integral to disaster resilience, beginning with “disaster.” Various definitions of the word exist across a range of complexities and contexts. An emergency management course offered by the Federal Emergency Management Agency lists 63 definitions for disaster in its appendix of terms, including one from the iconic disaster researcher Enrico Quarantelli: “Disasters occur when the demands for action exceed the capabilities for response in a crisis situation.”<sup>26</sup> A different but equally generalized definition comes from Marizen Ramirez and her colleagues, who declare disasters to be “rare, unexpected incidents.”<sup>27</sup> These broad definitions apply to this thesis, allowing for unique community characteristics and acknowledging the spectrum of disasters across geography, length of warning time, and cause.<sup>28</sup>

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<sup>26</sup> Federal Emergency Management Agency, *Planning for the Whole Community*, 20.

<sup>27</sup> Ramirez et al., “Emergency Drill Performance at Schools,” 112.

<sup>28</sup> Steven Rottman, Kimberly Shoaf, and Alina Dorian, “Development of a Training Curriculum for Public Health Preparedness,” *Journal of Public Health Management and Practice* 11, no. 6 (2005): 128–31.

Resilience has become a prevalent concept in recent disaster-related academic literature and has “burst onto policy agendas in the last few years,” as described by Susan Cutter, director of the Hazards and Vulnerability Research Institute at the University of South Carolina.<sup>29</sup> The prominence of the term in current works clearly shows that disaster resilience is an important concept, but it seems that its importance is the only facet of resilience on which there is agreement. It is a concept still in search of a common definition, which Mayunga has noted as an issue; defining resilience is the first task that many resilience articles address.<sup>30</sup> It has been defined in so many ways that several research articles include a table or appendix of up to 21 definitions of resilience.<sup>31</sup> Disaster resilience has been analyzed at the individual, building, community, and system levels, defined through capacities or capabilities and as an outcome or a process. It has also been defined in the literature by what it is not: resilience is different from resistance, and it is distinct from vulnerability. It is often seen as improvement-oriented, which can be either incremental or transformative, and some researchers also consider it adaptive.<sup>32</sup>

One of the richest debates among researchers centers on whether to consider resilience an outcome itself or a process leading to an outcome, and most researchers see it as evolving over time from outcome to process, which now favors a process-based approach.<sup>33</sup> The older, more traditional stance holds that the desired outcome of resilience is a return to the normal condition, whether for a system, building, or community. As noted by Kaplan, this position presumes that the condition before the disaster was ideal and the

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<sup>29</sup> Cutter, “Disaster Resilience Indicators,” 741.

<sup>30</sup> Mayunga, “A Capital-Based Approach”; Manyena, “Resilience Revisited,” 437.

<sup>31</sup> Mayunga, “A Capital-Based Approach,” 4; Fran Norris et al., “Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness,” *American Journal of Community Psychology* 41, no. 1–2 (April 2008): 128, <https://doi.org/10.1007/s10464-007-9156-6>; Anita Chandra et al., *Building Community Resilience to Disasters: A Way Forward to Enhance National Health Security* (Santa Monica, CA: RAND, 2011).

<sup>32</sup> Caroline Wenger, “The Oak or the Reed: How Resilience Theories Are Translated into Disaster Management Policies,” *Ecology and Society* 22, no. 3 (September 2017): 21, <https://doi.org/10.5751/ES-09491-220318>.

<sup>33</sup> Adrian Van Breda, *Resilience Theory: A Literature Review* (Pretoria: South African Military Health Service, 2001).

best that could be expected.<sup>34</sup> It does not leave room for growth or the possibility of a “new normal” after the event. This perspective is seen as reinforcing traditional disaster management, which McEntire et al. point out is a reactive stance.<sup>35</sup>

The prevailing school of thought is that a process-oriented approach allows for building capacity beforehand and through disaster preparedness, as well as the possibility that one can learn from the disaster and emerge stronger—restoring to a standard different from and better than what was in place before the disaster. A process orientation also emphasizes the role of people and the ability to address issues throughout the disaster cycle, preparing specifically for disasters. A caution to a process-based approach also emerges from a few academics, aligned to the way that recovery is measured after a disaster. In a guide to disaster resilience literature from the National Institute of Standards and Technology, Stanley Gilbert indicates that in a process-based resilience approach, it is unclear what process is specifically being measured. An outcome-based approach, however, does allow for a rigorous testing process with reportable results.<sup>36</sup> Offering an opposing viewpoint, Wenger argues that this must be balanced against the possibility of an outcome-focused approach creating a maladaptive feedback loop that repeats mistakes, such as an upgrade of the same system.<sup>37</sup>

Another point of contention in the research is whether resilience includes the quality of adaptability, which may involve growth or improvement. This is sometimes characterized as the quality of bouncing forward instead of bouncing back, as initially described by Manyena.<sup>38</sup> Many researchers, especially those who espouse a process-

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<sup>34</sup> Howard Kaplan, “Toward an Understanding of Resilience: A Critical Review of Definitions and Models,” in *Resilience and Development: Positive Life Adaptations*, ed. Meyer Glantz and Jeannette Johnson (Dordrecht, Netherlands: Kluwer Academic Publishers, 1999), 17–83.

<sup>35</sup> David McEntire et al., “A Comparison of Disaster Paradigms: The Search for a Holistic Policy Guide,” *Public Administration Review* 62, no. 3 (May/June 2002), <https://www.jstor.org/stable/3110212>.

<sup>36</sup> Stanley Gilbert, *Disaster Resilience: A Guide to the Literature*, NIST Special Report 1117 (Gaithersburg, MD: National Institute of Standards and Technology, 2010).

<sup>37</sup> Wenger, “The Oak or the Reed,” 21.

<sup>38</sup> Manyena, “Resilience Revisited,” 437.

oriented conception of resilience, consider adaptability to be a key component of disaster recovery, so a poorly performing or dysfunctional system does not just return to its previous state after a disaster, which would leave it equally vulnerable to another disaster. Many disaster resilience definitions, however, do not include language specifically identifying adaptability as a desired or necessary capacity. Adaptation is a desirable human quality post-disaster because it increases the capacity for learning and coping.<sup>39</sup> For some researchers who do not include adaptability in their definition, including Manyena and Wenger, their reasons pertain to the term's not being precise. What exactly do we expect to be adaptable? People? Processes? Systems?<sup>40</sup>

Academics do agree that one defining feature in a resilience framework for disasters is an emphasis on response and recovery as opposed to the traditional vulnerability framework, which emphasizes the pre-event potential for harm or risk-related deficiencies.<sup>41</sup> Paton and Johnson see resilience and vulnerability as completely separate concepts while Weichselgartner sees them as intertwined factors of one another, largely depending on the definitions used and the field from which those definitions originate.<sup>42</sup> Disaster literature concerning vulnerability largely comes from geography and natural sciences, not from the social sciences.<sup>43</sup>

Resilience is elevated beyond a lack of vulnerability, which is reinforced by the seminal work of Norris et al., who define resilience as a “process that emerges from malleable resources” and a strategy.<sup>44</sup> While vulnerability can apply to people as well as

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<sup>39</sup> Mayunga, “A Capital-Based Approach,” 4.

<sup>40</sup> Manyena, “Resilience Revisited,” 437; Wenger, “The Oak or the Reed,” 21.

<sup>41</sup> Cutter et al., “A Place-Based Model,” 598–608; Alonzo Plough et al., “Building Community Disaster Resilience: Perspectives from a Large Urban County Department of Public Health,” *American Journal of Public Health* 103, no. 7 (2013): 1190–97.

<sup>42</sup> Paton and Johnston, “Disasters and Communities,” 270–77; Juergen Weichselgartner, “Disaster Mitigation: The Concept of Vulnerability Revisited,” *Disaster Prevention and Management* 10, no. 2 (2001): 85–95.

<sup>43</sup> Manyena, “Resilience Revisited,” 437.

<sup>44</sup> Norris et al., “Community Resilience as a Metaphor,” 146.

buildings or systems, several researchers discuss a uniquely human aspect of disaster resilience: the mindset that accompanies the process. With resilience, the focus in the hazard/consequence cycle is on building something up rather than just reducing something, and this emphasis is one of the few consistencies across the literature. Resilience applied by researchers to people emphasizes community strengths and includes capability and the potential for growth among its factors.<sup>45</sup> The language used in the literature to describe those affected by disaster also transforms with the shift to a resilience perspective, and this is addressed explicitly in some works. Plough et al. write that people affected by a disaster are no longer helpless victims but empowered survivors in control of their destiny.<sup>46</sup> This perspective is echoed by Wenger, who states that resilience carries connotations of strength and the ability to cope with setback.<sup>47</sup> One can imagine that this perspective is part of a recent post-shooting vocabulary trend, wherein resilience is embodied by such campaigns as “Boston Strong” following the Boston Marathon bombing.

Wenger provides a distinctive voice in her analysis of how resilience is used in policy documents. She somewhat cynically points out that reframing resilience as a positive human quality instead of vulnerable victimhood has political appeal. There is scant precedent in the literature for this view of resilience, but the effects of resiliency have often had political implications. As Manyena explains it, a good disaster resilience program has a positive effect on the assets and resources of a community, reaping benefits throughout the disaster cycle and during non-calamitous times as well.<sup>48</sup> Wenger goes further, stating that resilience-focused policy reduces reliance on governmental intervention in the disaster cycle, not to mention reduces government responsibility for the outcomes of a disaster. Focusing on resilience may appeal to people’s sense of pride about their strength in adversity, which may motivate a community to work together better following a disaster.<sup>49</sup>

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<sup>45</sup> Manyena, “Resilience Revisited,” 437; Paton and Johnston, “Disasters and Communities,” 436.

<sup>46</sup> Plough et al., “Building Community Disaster Resilience,” 1190–97.

<sup>47</sup> Wenger, “The Oak or the Reed,” 22.

<sup>48</sup> Manyena, “Resilience Revisited,” 435.

<sup>49</sup> Wenger, “The Oak or the Reed,” 18–34.

## B. SOCIAL PSYCHOLOGY

CDR cannot easily be studied without examining what makes a group of people a community, the dynamics between the community and its members, and the potential influence on those dynamics during a disaster or while preparing for one. Social psychology, the study of human social interaction, provides a useful lens through which to view these dynamics.<sup>50</sup> As a field, social psychology has a documented history that reaches back more than 100 years. One of the earliest experiments was published in 1898 in the *American Journal of Psychology* on the effect of competing with another person in task completion.<sup>51</sup> In 1924, a widely adopted textbook titled *Social Psychology* was written by “the father of social psychology,” Floyd Allport.<sup>52</sup> The book endured 13 editions over the next 50 years.<sup>53</sup>

Definitions of social psychology help determine its place among the social sciences. Turner and Oakes argue that social psychology integrates two different phenomena: the person and his mental properties, which are psychological, and the interactions between people, which are social. They see this as a paradox, musing, “Can there be and how can there be a non-individualistic science of the individual?”<sup>54</sup> One classic definition of social psychology offered by Gordon Allport—brother of aforementioned Floyd Allport—is “an attempt to understand how the thought, feeling, and behavior of individuals are influenced by the actual, imagined, or implied presence of other human beings.”<sup>55</sup> Baron and Byrne

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<sup>50</sup> Kenneth J. Gergen, “Social Psychology as History,” *Journal of Personality and Social Psychology* 26, no. 2 (1973): 309–20, <http://dx.doi.org/10.1037/h0034436>.

<sup>51</sup> Norman Triplett, “The Dynamogenic Factors in Pacemaking and Competition,” *American Journal of Psychology* 9, no. 4 (1989): 507–33, <https://www.jstor.org/stable/1412188>.

<sup>52</sup> Daniel Katz, “Obituary: Floyd H. Allport (1890–1978),” *American Psychologist* 34, no. 4 (1979): 351–53, <http://dx.doi.org/10.1037/h0078276>.

<sup>53</sup> Floyd Allport, *Social Psychology* (Boston: Houghton Mifflin, 1924).

<sup>54</sup> John C. Turner and Penelope J. Oakes, “The Significance of the Social Identity Concept for Social Psychology with Reference to Individualism, Interactionism and Social Influence,” *British Journal of Social Psychology* 25, no. 6 (1986): 237, <https://doi.org/10.1111/j.2044-8309.1986.tb00732.x>.

<sup>55</sup> Gordon Allport, “The Historical Background of Modern Social Psychology,” in *Handbook of Social Psychology*, vol. 1, ed. G. Lindzey (Cambridge, MA: Addison-Wesley, 1954), 5.

refine this idea to define it as “understand [ing] the nature and causes of individual thought and behavior in social situations.”<sup>56</sup> It is also described simply as the study of social behavior.<sup>57</sup> Gold and Douvan define social psychology as “the study of the reciprocal influence of persons and their social environments,” and they argue for an integrated approach.<sup>58</sup>

Over the last hundred years, since social psychology was first recognized as a discipline, relatively few books have been written on the theories within the field. One view is that social psychology will continue to be a relevant field contributing valuable theory in the future, due to its unique analytical focus on mundane social interactions.<sup>59</sup> Translational research is often seen as the connection between theory and application in social psychology.

Turner and Oakes posit that the metatheory of social psychology contains four key components, the first being that individuals are defined by, and always a part of, a larger society. Another component is that individuality is a social condition. The continuous reciprocal actions between individuals and their place in society comprise the third key component. Explaining the psychological aspects of society is the final component, and the task of social psychology that distinguishes it from other fields, such as sociology.<sup>60</sup> Notably, human cognition is socially mediated and experienced phenomenologically.<sup>61</sup>

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<sup>56</sup> Robert A. Baron and Donn Byrne, *Social Psychology*, 8th ed. (Needham Heights, MA: Allyn and Bacon, 1997), 6.

<sup>57</sup> Kay Deaux, Francis Dane, and Lawrence Wrightsman, *Social Psychology in the 90s*, 6th ed. (Pacific Grove, CA: Brooks/Cole Publishing, 1993); Martin Gold and Elizabeth Douvan, *A New Outline of Social Psychology* (Washington, DC: American Psychological Association, 1997).

<sup>58</sup> Gold and Douvan, *A New Outline*, 9.

<sup>59</sup> Paul Van Lange, “What We Should Expect from Theories in Social Psychology: Truth, Abstraction, Progress, and Applicability as Standards (TAPAS),” *Personality and Social Psychology Review* 17, no. 1 (2013): 40–55, <https://doi.org/10.1177/1088868312453088>.

<sup>60</sup> Turner and Oakes, “The Significance of the Social Identity Concept,” 237–52.

<sup>61</sup> Shannon Spaulding, “Phenomenology of Social Cognition,” *Erkenntnis* 80, no. 5 (2014), <https://doi.org/10.1007/s10670-014-9698-6>; Turner and Oakes, “The Significance of the Social Identity Concept,” 237–52.

Social psychology developed two distinct and intentional branches following World War II, formed and divided geographically and defined by approach. European psychologists wanted a social psychology distinct from the American model, which focused on experiments.<sup>62</sup> They sought a less-individualistic approach with greater applied value and substance over method, focusing on the betterment of life.<sup>63</sup> Europeans felt that social psychology, as studied by the Americans, was trivial, too reductionist, and too asocial. In contrast, the Americans felt that the Europeans were not focused enough on cultural and structural context and that they concentrated too much on equity and not enough on equality. Cultural context is critical in social psychology, and discovering cross-cultural consistencies is one important social psychology phenomenon.<sup>64</sup> Americans and Europeans alike have found that experiment-based studies are not a guarantee of universality, and one identified weakness of the experimental approach is the use of simulated experiences via computer instead of interactions with other humans.<sup>65</sup>

One common belief in social psychology is the assumption of basic universals, an idea first challenged in 1972 by Gerard and Connolly.<sup>66</sup> This assumption wrongly supposes that experiences and reactions apply worldwide, regardless of cultural context. As Jahoda points out, this overbroad generalization is exacerbated in most American social psychology studies through the use of college students as subjects, a group that does not characterize the larger population.<sup>67</sup> Cultural and societal norms vary across the globe and inform everyday social behaviors, lending credence to Norenzayan and Heine's belief that

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<sup>62</sup> Thomas F. Pettigrew, "The Emergence of Contextual Social Psychology," *Personality and Social Psychology Bulletin* 44, no. 7 (2018): 963–71, <https://doi.org/10.1177/0146167218756033>.

<sup>63</sup> Sandra G. L. Schrujfer and Geoffrey M. Stephenson, "Trends and Developments in Community and Applied Social Psychology: JCASP 1991–2010," *Journal of Community and Applied Social Psychology* 20, no. 6 (2010): 437–44, <https://doi.org/10.1002/casp.1069>.

<sup>64</sup> Gustav Jahoda, "Seventy Years of Social Psychology: A Cultural and Personal Critique," *Journal of Social and Political Psychology* 4, no.1 (2016): 364–80, <http://dx.doi.org/10.5964/jspp.v4i1.621>.

<sup>65</sup> Gustav Jahoda, "Critical Comments on Experimental, Discursive, and General Social Psychology," *Journal for the Theory of Social Behaviour* 43, no. 3 (2012): 341–60, <https://doi.org/10.1111/j.1468-5914.2012.00497>.

<sup>66</sup> Jahoda, 341–60.

<sup>67</sup> Jahoda, "Seventy Years of Social Psychology," 364–80.

social psych experiments are only meaningful for the culture in which the study was conducted. They posit that cross-cultural studies can create valid universals, but this labor-intensive and costly approach is rarely used.<sup>68</sup>

Identity is one of the core issues of social psychology and is well established and often researched.<sup>69</sup> Conceptually, identity is transdisciplinary and provides a theoretical link between individuals and their sociocultural context.<sup>70</sup> A common view of identity is to see it as a collective phenomenon, looking for qualities and actions that are the same among group members and building a group definition based on that sameness. This definition is further refined in a variety of ways by researchers. Brubaker and Cooper propose refining identity by looking at contrasts: between self-understanding and self-interest, between individuality and universality, and between two ways of construing social grouping.<sup>71</sup> Cerulo sees identity as a way to transform socially rather than a product of mobility.<sup>72</sup> Hammack views identity as the construction of a personal narrative, claiming that identity applies to content, structure, and a process that is both social and cultural.<sup>73</sup>

Brubaker and Cooper are not entirely convinced that identity should be used as the basis for the work of social psychology, as its nature is constructivist and fluid.<sup>74</sup> They do not see identity as indispensable, because individuals can describe sharing attributes without feeling a shared identity, and they further think that researchers must move beyond identity for social analysis. They also claim that using identity as an analytical category is

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<sup>68</sup> Ara Norenzayan and Steven J. Heine, "Psychological Universals: What Are They and How Can We Know?," *American Psychological Association Bulletin* 131, no. 5 (2005): 763–84, <https://doi.org/10.1037/0033-2909.131.5.763>.

<sup>69</sup> Henri Tajfel, *Differentiation between Social Groups: Studies in the Social Psychology of Intergroup Relations* (London: Academic Press, 1978).

<sup>70</sup> Phillip L. Hammack, "Narrative and the Cultural Psychology of Identity," *Narrative, Culture, and Identity* 12, no. 3 (2008): 222–47, <https://doi.org/10.1177/1088868308316892>.

<sup>71</sup> Brubaker and Cooper, "Beyond 'Identity'," 1–47.

<sup>72</sup> Karen A. Cerulo, "Identity Construction: New Issues, New Directions," *Annual Reviews* 23, no. 8 (1997): 385–409, <https://doi.org/10.1146/annurev.soc.23.1.385>.

<sup>73</sup> Hammack, "Cultural Psychology of Identity," 222–47.

<sup>74</sup> Brubaker and Cooper, "Beyond 'Identity'," 1–47.

not always helpful or necessary. In addition, Brubaker and Cooper wonder whether weak conceptions of identity can even be thought of as identity, and they state that a sense of belonging to a distinct group is not enough on its own to create a collective identity.<sup>75</sup>

Social psychology is often studied within the context of one or more core theories accepted in the field, which can make connections to the past, with other social sciences, and to issues that affect society.<sup>76</sup> Some of these core theories apply to CDR, including SIT, self-categorization theory, and social learning theory. Core theories can act as bridges between concepts by creating generalizations across processes, such as the overlap between SIT in social psychology and identity approaches in sociology.<sup>77</sup>

### C. SOCIAL IDENTITY THEORY

SIT and social categorization theory (SCT) are among the theories considered part of the social identity approach.<sup>78</sup> This approach is the foremost explanatory framework for processes among members of the same group and relations between groups.<sup>79</sup> People learn about themselves by comparing themselves with relevant others, and intergroup processes have also been studied.<sup>80</sup> Discoveries about social behavior under the social identity umbrella include experiments in the significance of group membership, how widely group membership is granted for helping behavior, and the conditions under which people define

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<sup>75</sup> Brubaker and Cooper, 1–47.

<sup>76</sup> Van Lange, “Theories in Social Psychology,” 40–55.

<sup>77</sup> Michael A. Hogg and Cecilia L. Ridgeway, “Social Identity: Sociological and Social Psychological Perspectives,” *Social Psychology Quarterly* 66, no. 2 (2003): 97–100, <https://www.jstor.org/stable/1519841>.

<sup>78</sup> Michael A. Hogg, Deborah J. Terry, and Katherine M White, “A Tale of Two Theories: A Critical Comparison of Identity Theory with Social Identity Theory,” *Social Psychology Quarterly* 58, no. 4 (1995): 255–69, <https://doi.org/10.2307/2787127>.

<sup>79</sup> Richard J. Crisp and Sarah R. Beck, “Reducing Intergroup Bias: The Moderating Role of Ingroup Identification,” *Group Processes & Intergroup Relations* 8, no. 2 (2005): 173–85, <https://doi.org/10.1177/1368430205051066>.

<sup>80</sup> Kerry Kawakami and Kenneth L. Dion, “Social Identity and Affect as Determinants of Collective Action,” *Theory and Psychology* 5, no. 4 (1995): 551–77, <https://doi.org/10.1177/0959354395054005>.

themselves collectively.<sup>81</sup> Social identity allows group behavior to occur and provides the basis for mutual social influence. Social identity is the foundation of all beneficial social interactions among humans, including motivation, lending assistance, communication, faith in other people, leadership, group alignment, and association.<sup>82</sup> It is also the foundation upon which people identify and self-select roles and exert collective influence.<sup>83</sup>

SIT is a well-known and extensively employed core theory of social psychology, and it has even been called the preeminent theory of the field.<sup>84</sup> It developed from and as a part of the European social psychology tradition and is used to explain group processes and intergroup relations.<sup>85</sup> A person's social identity is based on acknowledging sharing characteristics with a group or social category and providing the person with self-definition and group membership based on that identity.<sup>86</sup> SIT is a self-system, whereby people reflect on their sense of self as sharing categorical membership or not. Members of a group identify with each other and hold similar views. Social identities are relative and may change over time, and group membership is likewise dynamic.<sup>87</sup>

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<sup>81</sup> Levine et al., "Identity and Emergency Intervention," 595–713.

<sup>82</sup> Ray Forrest and Ade Kearns, "Social Cohesion, Social Capital and the Neighbourhood," *Urban Studies* 38 no. 12 (2001): 2125–43.

<sup>83</sup> John Drury and Steve Reicher, "The Intergroup Dynamics of Collective Empowerment: Substantiating the Social Identity Model of Crowd Behavior," *Group Processes & Intergroup Relations* 2, no. 4 (October 1999): 381–402, <https://doi.org/10.1177/1368430299024005>; Stephen Reicher and S. Alexander Haslam, "Beyond Help: A Social Psychology of Collective Solidarity and Social Cohesion," in *The Psychology of Prosocial Behavior: Group Processes, Intergroup Relations, and Helping*, ed. S. Stürmer and M. Snyder (Chichester, UK: Wiley-Blackwell, 2010), 289–309; Turner and Oakes, "The Significance of the Social Identity Concept," 237–52.

<sup>84</sup> Rupert Brown, "Social Identity Theory: Past Achievements, Current Problems and Future Challenges," *European Journal of Social Psychology* 30, no. 6 (2000): 745–78, [https://doi.org/10.1002/1099-0992\(200011/12\)30:6<745::AID-EJSP24>3.0.CO;2-O](https://doi.org/10.1002/1099-0992(200011/12)30:6<745::AID-EJSP24>3.0.CO;2-O); Hogg, Terry, and White, "A Tale of Two Theories," 255–69.

<sup>85</sup> Hogg, Terry, and White, "A Tale of Two Theories," 255–69.

<sup>86</sup> Michael A. Hogg and Dominic Abrams, *Social Identifications: A Social Psychology of Intergroup Relations and Group Processes* (London: Routledge, 1988).

<sup>87</sup> John C. Turner, "Towards a Cognitive Redefinition of the Social Group," in *Social Identity and Intergroup Relations*, ed. Henri Tajfel (Cambridge: Cambridge University Press, 1982), 15–40.

Social identities are descriptive, prescriptive, and evaluative and lead to members' categorizing people as belonging to the "in-group" of fellow group members or the "out-group" of those who are not group members.<sup>88</sup> Conduct toward out-group members is also salient.<sup>89</sup> Two important processes that accomplish this sorting are self-categorization and social comparison, with the motivation to enhance the group relative to the position of the out-group.<sup>90</sup> The emphasis in SIT is on the dynamic self, mediating the dynamic relationship between social structures and individual behavior, which is also dynamic.<sup>91</sup>

From Haslam et al. comes the idea that people relate important social entities to their lives, seeing their members as part of their own identity.<sup>92</sup> Social identity theories help psychologists integrate the broader world's complexities and richness into understanding of the self.<sup>93</sup> SIT is structured around three elements as perceived by a group: how accessible the group's boundaries are, the stability of the group, and the standing of the group in relation to other groups.<sup>94</sup> There is also a relationship between SIT and the helping/decision-making process.<sup>95</sup> Kawakami and Dion point out that the strength of SIT lies in the inclusion or exclusion of categories that make up the group

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<sup>88</sup> Tajfel, *Differentiation between Social Groups*.

<sup>89</sup> Hogg, Terry, and White, "A Tale of Two Theories," 255–69.

<sup>90</sup> Turner, "Cognitive Redefinition of the Social Group," 15–40.

<sup>91</sup> Turner, 15–40.

<sup>92</sup> Alexander S. Haslam et al., "Social Identity, Health and Well-Being: An Emerging Agenda for Applied Psychology," *Applied Psychology and International Review* 58, no. 1 (2009): 1–23, <https://doi.org/10.1111/j.1464-0597.2008.00379.x>.

<sup>93</sup> Turner, "Cognitive Redefinition of the Social Group," 15–40.

<sup>94</sup> Martijn Van Zomeren, Tom Postmes, and Russell Spears. "Toward an Integrative Social Identity Model of Collective Action: A Quantitative Research Synthesis of Three Socio-Psychological Perspectives," *Psychological Bulletin* 134, no. 4 (2008): 504–35.

<sup>95</sup> Levine et al., "Identity and Emergency Intervention," 595–713; John F. Dovidio, "Helping Behavior and Altruism: An Empirical and Conceptual Overview," in *Advances in Experimental Social Psychology*, ed. L. Berkowitz (New York: Academic Press, 1984), 361–427; Robert B. Cialdini et al., "Reinterpreting the Empathy-Altruism Relationship: When One into One Equals Oneness," *Journal of Personality and Social Psychology* 73, no. 3 (1997): 481–94, <http://dx.doi.org/10.1037/0022-3514.73.3.481>.

identity, and this allows the field to understand and predict action strategies of groups and individuals.<sup>96</sup>

SIT relates to membership in broad categories including nationality and race and the social dynamics between such categories.<sup>97</sup> SIT emphasizes intergroup relations and the role played by out-groups and how members of those groups are perceived and treated.<sup>98</sup> SIT attempts to explain and categorize social outcomes. The approach emphasizes socio-cognitive processes and elaborates on cognition.<sup>99</sup>

One group of scholars has pointed out some of SIT's weaknesses. As there is vast diversity of groups in the world, Brown believes that SIT does not appear to acknowledge or embrace this diversity, nor does it recognize that different groups have different normative behaviors.<sup>100</sup> He maintains that SIT does not differentiate between different kinds, functions, or sizes of groups; one ought not assume that a group is a group is a group.<sup>101</sup> He also finds a shortcoming of SIT in that it does not deftly incorporate or account for a negative affect such as hostility and prejudice.<sup>102</sup> Kawakami contends that SIT (and SCT) does not specify how and why people choose other individuals as the basis for their comparisons.<sup>103</sup> Another criticism is that SIT is too concerned with cognitive processes and does not prioritize actions.<sup>104</sup> That SIT came out of the European social

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<sup>96</sup> Kawakami and Dion, "Determinants of Collective Action," 551–77.

<sup>97</sup> Hogg, Terry, and White, "A Tale of Two Theories," 255–69.

<sup>98</sup> Hogg, Terry, and White, "A Tale of Two Theories," 255–69; Van Lange, "Theories in Social Psychology," 40–55.

<sup>99</sup> Hogg, Terry, and White, "A Tale of Two Theories," 255–69.

<sup>100</sup> Brown, "Past Achievements, Current Problems," 745–78.

<sup>101</sup> Brown, 745–78.

<sup>102</sup> Brown, 745–78.

<sup>103</sup> Kawakami and Dion, "Determinants of Collective Action," 551–77.

<sup>104</sup> Kawakami and Dion, "Determinants of Collective Action," 551–77; Hogg, Terry, and White, "A Tale of Two Theories," 255–69.

psychology tradition is also seen as limiting the theory.<sup>105</sup> SIT also does not explicitly discuss roles, which is a further limitation.<sup>106</sup>

SIT can provide a useful framework for explaining the human elements in all phases of the disaster cycle. The theory also provides evidence for community resilience as a useful approach to disaster management, as well as the reasoning to apply it in a community to improve the outcome of a disaster.

Developing meaning over time and experience is the method that informed this literature review and was used to develop this thesis, much as it is employed in social constructivism. It explored how people engage in learning to construct meaningful existence. This chapter also explored SIT, which looks at how humans group themselves and others based on characteristics and shared identities. The literature review also explained that associated groups work together after a disaster to restore and improve their communities in a phenomenon known as disaster resilience. Next, connections will be made between these explored theories to improve disaster resilience.

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<sup>105</sup> Hogg, Terry, and White, “A Tale of Two Theories,” 255–69.

<sup>106</sup> Hogg, Terry, and White, 255–69.

### III. METHODS

This qualitative research project used textual analysis and interpretation to show the relationships and commonalities between social psychology and CDR. I reviewed the academic literature in each area to find the overlapping elements and explicitly connect them. I posit that aligning well-validated theories in social psychology with CDR validates CDR by providing a place for it in the canon of social psychology theory. Drawing from these connections, I have made recommendations for improving tools and materials used to strengthen CDR in communities. I have provided an explanation of what makes a CDR tool effective and made recommendations to increase the effectiveness of the tools. I chose this focus because these areas are understudied; little research shows the application of theory to CDR, and little attention has been paid to improving outcomes in applying CDR in the field.

I started by reviewing the various definitions of disaster and resilience that are prevalent in both academic literature and policy, which acquainted me with the evolutionary nature of qualitative inquiry, in which interpretations develop and change throughout the research process.<sup>107</sup> It also provided the frame for embracing a constructivist approach, acknowledging that my background in emergency management and education informs my interpretations.<sup>108</sup>

I then reviewed disaster research literature, noting the theories and language used to study the human and community aspects of disasters. This helped me make connections with CDR, the next body of academic work investigated. I focused on definitions of CDR, how various researchers break down the concept into domains, and how it can be measured. I also looked for information about increasing the effectiveness of CDR tools and strategies when working with communities. These criteria gave me specific data for gap analysis and comparison with the other concepts studied. I followed this with an in-depth study of social psychology to find established theories that support and apply to CDR. I chose social

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<sup>107</sup> Glesne and Peshkin, *Becoming Qualitative Researchers*, 6.

<sup>108</sup> Creswell, *Research Design*, 8.

psychology because of its rich, well-established research history and the focus on interactions between people and groups of people, which is ideal for CDR.

I also researched social constructivism, which provided a thesis framework that posits knowledge is constructed through human interactions and emphasizes the collaborative nature of learning.<sup>109</sup> This framework pairs well with CDR, which also relies on collaboration and has connections to social psychology.

Since the nature of my study was purely theoretical, I critiqued the application of these theories and identified their logic, gaps, and blind spots. Sources consisted primarily of published, peer-reviewed, academic research. There were two intended results of this thesis: establishing which theories of social psychology apply to CDR and creating a set of recommendations for improving the effectiveness of CDR tools in the field. The results of this thesis are meaningful for academics and practitioners alike, providing the theoretical base upon which to build future disaster resilience research, as well as practical takeaways for improving the effectiveness of CDR tools in targeted populations. The research and recommendations will help communities prepare for emergencies and increase the understanding of disaster resilience. This study is limited to the theoretical realm, and future research will need to be conducted to test the findings in actual communities.

I decided to study the intersection of CDR and social psychology because, as a “pracademic” (practitioner/academic) in the field of emergency management, I see practical value in both of these approaches and believe the two theories to be connected. Both also deserve to be applied with intention proactively.<sup>110</sup> I was already familiar with the 100-year history of social psychology and anticipated that connecting it to CDR would help provide the rationale for the application of resilience language and a CDR approach in government guidance documents, research, and funding opportunities. I initially thought that I could find explicit commonalities when reviewing the academic literature of the two fields by looking primarily at literature from each field that incorporated social capital.

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<sup>109</sup> Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* (Garden City, NY: Doubleday, 1966).

<sup>110</sup> Kate Long, California Governor’s Office of Emergency Services, personal communication, 2016.

This thesis is exploratory in nature because there is no literature that already connects social psychology and CDR. From social psychology, I focused on SIT for several reasons. SIT is a prominent theory in social psychology and has been applied widely in a variety of circumstances and populations. It is robustly represented in academic literature. Its concrete markers made finding and explaining connections with CDR easier, theoretically. Because SIT focuses on the actions of group members, it can be easily applied to any concrete tools used to expand or grow CDR in communities. The community and disaster aspects of CDR fit the in-group/out-group dichotomy of SIT well, as one is either a member of a community or not, and disaster impacts tend to group people based on their experiences of the disaster. Also, SIT is readily identifiable and, because it is about groups, should transfer to community resilience and collective action well. SIT literature is abundant, and resilience as a concept is mentioned and applied in numerous policy documents and government approaches (I'm looking at you, Rockefeller Foundation, with your 100 Resilient Cities and your chief resilience officers).

But the resilience question that seems so obvious to me as needing an answer is not asked nearly often enough and rarely explored formally in academic literature. Simply put, how can we increase CDR before a disaster strikes? This question and related others are ideas that, as an emergency manager, keep me up at night and get me up in the morning:

- How do we increase the capacities of a community and the capacity for resilience separately and CDR as a unique concept?
- How do we increase the sense of community in neighborhoods and groups and, further, goad that community into collective action?
- How do we increase the capacity not just to bounce back but to bounce forward and rebound from an adverse event to become better, stronger, and less likely to be affected by a future event?
- How do we get that resilience to happen within a community and not just individually (and how is it different)?
- How do we make the whole (community) stronger than the sum of its parts? What do we work on in a community to give it the skills and capacity to apply resilience in a disaster?

- If we know (and can demonstrate) that resilience and CDR, specifically, are worthy and worth pursuing, what tools can be employed in a community to work intentionally to increase the elements of CDR?
- How do we become better at increasing CDR?
- Why measure CDR after a disaster if the point is to be proactive?

So where are all the CDR tools? I found precious few, which surprised me. I did find a game, Extreme Event, which was designed to be played in communities to increase their understanding of disaster response and increase CDR. The game informed my reading if not specifically my analysis, and I knew that if I could come up with a set of attributes that matched both SIT and CDR, I could apply those attributes to the game and improve its effectiveness. Such an approach had the added bonus of applying the attributes of SIT to the closely aligned structure of a game (in-group/out-group, social categorization, honor challenge), providing an additional layer of validity and effectiveness for the theory.

I employed a constructivist approach in this thesis, which was essential when connecting two fields that had not been compared before. All exploratory research is constructivist in a very real sense. While I had ideas about where the research might take me, I had no initial evidence or prior work to build from. My research insights were built primarily through an in-depth analysis. My main sources were academic literature, primarily peer-reviewed, research journal articles, whose vetting process gave me a base of external validity upon which I could build.

In my review of academic literature, I created data categories within each academic field of literature studied, so that I could look for commonalities and connections. I divided the CDR literature into several categories, each chosen when frequency of use became evident, especially if it seemed relevant to social psychology. In my literature review for CDR, I discovered applicable literature in the fields of public health, science, sociology, psychology, and disaster. It has been called by a few different names, with and without the disaster element, including community resilience, collective resilience, and social resilience—all of which take an integrated approach. Determining what was and was not CDR meant analyzing the different naming conventions and defining features, so one of

my first, and most basic, data categories was definitions. Focusing on the definitions of the theories gave me an opportunity to sort out theories that sounded similar but did not share enough commonalities to be used interchangeably with the others. For efficiency, theories with these dissimilar definitions were then laid aside and not studied further.

I included a category of research that made a direct reference to social identity, SIT, or SCT, as academic writing that was explicit in addressing a connection gave me a foundation from which to explore further. I also included a category for theory, as referencing theory directly could be a source of comparison data and a point of commonality. I created an additional category for mentions of policy, as references to policy documents would speak to how resilience in general was expected to be applied. I also created a category for practical applications and a companion term in scholarly works, translational research. This helped me track how the theories were being applied in the real world, which was of utmost importance as I hoped to connect CDR with tools created to increase it; what better bridge to the tools than to see the practical relevance of the theory.

A final category that I used was based on measuring CDR. Looking at how a theory is measured breaks the theory into components, so I also included attributes or dimensions of CDR in this category. These components might be matched to components of another theory, and then the commonalities could be used to bring forward the connection between the two theories.

During my analysis of social psychology literature, including SIT/SCT and social constructivism, I created similar categories. I had a category that combined the background, history, and definitions of social psychology, as I knew the extensive background of the field was necessary to give context to the specifics of SIT later. I also included a category for SIT to mark which scholarly works on social psychology included explicit mentions of the theory; those mentions might offer more specifics or categorization of social psychology that supported SIT, making those articles more relevant to my thesis.

Staying true to grounded theory, as I was reading, I found it necessary to designate a category for other identity theories in social psychology. Identity is often studied in social psychology, and I wanted to ensure that I tracked it appropriately in case connections tying

the various theories together became evident. Included among these theories was social identity and SCT, a category that I later bundled with SIT, as most researchers consider it part of or outgrowth from SIT and not necessarily a distinct theory on its own. I also included learning theory in this category; I had initially thought it would need an entire section for subcategorization, but it seemed well intertwined with social psychology. I had a final category for research that either offered a dissenting opinion or disagreed with SIT or another prevalent social psychology theory to provide balancing counterarguments.

I found it necessary to conduct a deeper level of analysis on SIT to extract elements for comparison to CDR. The biggest category was of the domains, characteristics, and indicators that make up SIT according to various researchers. It was within this strand that I expected to find the commonalities with CDR on which to build my thesis. This did not turn out to be the case, for two primary reasons. The characteristics of SIT are highly situational, and while related, SIT and CDR study different things. On the one hand, CDR looks at the behavior of the group during the disaster cycle (or a single phase of that disaster cycle). SIT, on the other hand, studies how the individual thinks and behaves in a group. It is the study of the individual that differentiates social psychology from sociology, which studies the thinking and behavior of the group collectively. The rest of my data categories for SIT became more significant as I looked for commonalities between the two theories and details that explained the connections.

During my literature review, I tracked CDR studies that divided the theory into components and created a table of these studies, noting their use of terminology for each category and the components of the categories. There was some overlap of components among the studies. For SIT, I reviewed studies that assessed the theory, usually finding that each used variables specific to its study without regard for applicability to a larger context. Because context is important to SIT and identities change over time, few variables were independent from context, making direct comparison with CDR more challenging. I reviewed each SIT model and coded the variable with a descriptive characteristic label. Some labels were identical between the models, so I began a new method, organizing the data based on SIT characteristics. I then coded the representative SIT models that applied to each characteristic. To the existing table of CDR studies and their components, I added

a column for the description of each category within the study, using the words and intent of the researchers so that I did not misinterpret their design, as sometimes the same term was used with different meanings ascribed to different theories. Using the researchers' own descriptions also helped guard against a drift in definitions of the codes as I analyzed later data. Breaking the CDR data into smaller, descriptive units of descriptors yielded data that I then compared to the SIT models. I coded the CDR descriptors to each SIT characteristic, representing the CDR study using the primary researcher's name. I then assessed the results for patterns.

I created a category within SIT for measurement and scales because breaking down the data within the scales of SIT and CDR could provide potential commonalities. I also defined a category for SCT, along with mentions of categorization, selectivity, and context. This category was created to later provide justification for including SCT as a variant of SIT in my discussion of the theory. I also included a category for discussions of the collective self and collective action, as a focus on the collective provided useful continuity with CDR. I created a category for constructivism, but few explicit discussions of it were included in the SIT literature. I created a final category for disaster connections, which was less for connections to CDR than for SIT's relevance and importance during disasters and in preparing for them; this category included many of my own musings about how SIT might be relevant in a practical sense.

During my data analysis, I also looked beyond connections to expose gaps in the literature. The gap analysis that I conducted was internal within a body of research (between sources of CDR information and separately between sources of SIT information) and also across the bodies of research, comparing CDR data to SIT data. Looking for meaningful absence can be more difficult than looking for connections. The most relevant and striking gap was that no existing body of research assessed the connections between social psychology and CDR—I still have no explanation for this gap. I do not understand a community resilience movement (and the models that accompany it) that fails to examine the psychological underpinnings that drive the behavior of individuals, especially if CDR is studied proactively with the intent to change and improve resiliency. Surely researchers

must be thinking about ways to move the needle on resilience and not only of capturing current capacity or using CDR for evaluative purposes.

## IV. DATA ANALYSIS

The data analysis in this thesis is contextually grounded in the work of finding commonalities between CDR and SIT. It is intended to make a contribution to the academic community and the emergency management community to improve disaster outcomes through a better understanding of the human factors supporting resilience. Studying the characteristics of CDR and SIT and explicating the commonalities is one way to show the connections between the two theories. The data are reported here and interpreted in the next chapter.

### A. DEFINING RESILIENCE IN A DISASTER CONTEXT

Using resilience to frame disaster preparedness and response is a promising practice to help communities mitigate and plan for disasters. Disaster resilience is a complex concept shared by several disciplines and defined in so many ways that one research article includes an appendix of 19 definitions of disaster resilience.<sup>111</sup> Another article has a table of 21 different definitions of resilience, separated into levels of analysis from individual to community and city, to ecological system.<sup>112</sup> The disaster research community agrees that resilience works better as an ability or process than an outcome and as adaptability rather than stability. It does not, however, agree on a common definition for the concept of disaster resilience.<sup>113</sup>

Among the definitions, two are used to frame the discussions in this thesis. Cutter et al. define it as “the ability of a social system to respond and recover from disasters and . . . those inherent conditions that allow the system to absorb impacts and cope with an event, as well as post-event adaptive processes that facilitate the ability of the social system to re-organize, change, and learn in response to a threat.”<sup>114</sup> The National Research Council

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<sup>111</sup> Mayunga, “A Capital-Based Approach.”

<sup>112</sup> Norris et al., “Community Resilience as a Metaphor,” 127–50.

<sup>113</sup> Mayunga, “A Capital-Based Approach.”

<sup>114</sup> Cutter et al., “A Place-Based Model,” 599.

defines disaster resilience more succinctly: “The ability to survive and cope with disaster impacts and rebound after those events.”<sup>115</sup> Another useful defining feature for this thesis is the emphasis on response and recovery in a resilience framework of disasters as opposed to the potential for harm or risk-related deficiencies before a disaster, which are used in the older, more traditional vulnerability approach.<sup>116</sup> Adaptability is key to resilience, as returning an inadequate system to its previous state following a disaster does not reduce its vulnerability. Adaptation is a desirable trait as it increases the capacity for learning and coping.<sup>117</sup>

## **B. FACETS OF RESILIENCE**

Opportunities to compare CDR and social psychology emerge, and those comparisons can be more specific and valuable, when both concepts are broken into components. CDR is often divided by researchers into a handful of specific components to measure and analyze it. One method is to divide resilience into five forms of capital. Social capital uses the community’s social ties and networks to work together to find solutions, allowing a community to more easily resolve its problems. Economic capital compiles the financial resources of a community’s members. Physical capital is the built environment, including buildings, infrastructure, and utilities. Human capital includes the knowledge and skills that community members acquire through education, training, and experience. Natural resources, including those in the ecosystem as well as the community, comprise the natural capital category.<sup>118</sup>

Many other systems devised by researchers divide the strands of resilience differently, with varying amounts of overlap. One study uses divisions similar to the five capitals above but calls the strands “domains” and swaps out the human element for one

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<sup>115</sup> National Research Council, *Facing Hazards and Disasters: Understanding Human Dimensions* (Washington, DC: National Academies Press, 2006), 151.

<sup>116</sup> Cutter, “Disaster Resilience Indicators,” 741–58; Plough et al., “Building Community Disaster Resilience,” 1190–97.

<sup>117</sup> Mayunga, “A Capital-Based Approach.”

<sup>118</sup> Mayunga.

known as institutional, leaving the divisions otherwise the same as described in Mayunga's research.<sup>119</sup> Another structure describes networked resources, naming them "economic development, social capital, information and communication and community competence."<sup>120</sup> One other means of classification divides resilience into six indicators. These divisions are similar to the types of capital above but they distinguish between the ecological, institutional, and infrastructure areas and rename human capital "community competence."<sup>121</sup> Another method refers to elements that support community resilience. The elements are "knowledge of hazards, shared community values, established social infrastructure, positive social and economic trends, partnerships and resources and skills."<sup>122</sup> Another researcher describes community resilience through core components of community resilience as well as levers for change, including "wellness, access, education, engagement, self-sufficiency and partnership."<sup>123</sup> A final classification compared here divides the work into eight themes: "social character, economic capital, infrastructure and planning, emergency services, community capital, information and engagement, governance, policy and leadership, and social and community engagement."<sup>124</sup> Each of these classification systems allows resilience to be discussed, measured, and analyzed with a measure of specificity (see Table 1).

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<sup>119</sup> Ostadtaghizadeh et al., "Community Disaster Resilience."

<sup>120</sup> Norris et al., "Community Resilience as a Metaphor," 136.

<sup>121</sup> Cutter, "Disaster Resilience Indicators," 741–58.

<sup>122</sup> Philip Buckle, "Assessing Social Resilience," in *Disaster Resilience: An Integrated Approach*, ed. Douglas Paton and David Johnston (Springfield, IL: Charles C. Thomas, 2006), 97–98.

<sup>123</sup> Chandra et al., *Building Community Resilience to Disasters*, 4.

<sup>124</sup> Melissa Parsons et al., "Top-Down Assessment of Disaster Resilience: A Conceptual Framework Using Coping and Adaptive Strategies," *International Journal of Disaster Risk Reduction* 19 (October 2016): 7, <https://doi.org/10.1016/j.ijdr.2016.07.005>.

Table 1. Systems for Categorizing Community Disaster Resilience<sup>125</sup>

Author	Categories	Components of Categories	Description of Salient Components
Mayunga	Capital	social, economic, physical, human, natural	<i>Social</i> : “Trust, norms and networks that facilitate coordination, cooperation and access to resources”
Ostadtaghizadeh et al.	Domains	social, economic, physical, institutional, natural	<i>Social</i> : “Human capital, lifestyle and community competence, community capital, social and cultural capital”
Norris et al.	Networked resources	economic development, social capital, information and communication, community competence	<i>Social Capital</i> : “Social support, social embeddedness, organizational linkages and cooperation, organization participation and membership, sense of community, attachment to place”  <i>Community Competence</i> : “Community action, collective efficacy and empowerment”
Cutter	Indicators	ecological, social, economic, institutional, infrastructure, community competence	<i>Social</i> : “Social networks and social embeddedness; community values, cohesion”
Buckle	Elements	knowledge of hazards, shared community values, established social infrastructure, positive social and economic trends, partnerships, resources and skills	<i>Established Social Infrastructure</i> : “Social networks and community organizations”  <i>Partnerships</i> : “Between agencies, community groups and private enterprise facilitating shared experience and resources”
Chandra et al.	Lever	wellness, access, education, engagement, self-sufficiency, partnership	<i>Engagement and Self-sufficiency</i> (listed separately with shared definition): “Social connectedness for resource exchange, cohesion”
Parsons et al.	Themes	social character, economic capital, infrastructure and planning, emergency services, community capital, information and engagement, governance, policy and leadership, social and community engagement	<i>Community Capital</i> : “Social networks; bonding, bridging and linking social capital to enhance collective problem-solving”  <i>Social and Community Engagement</i> : “Social capital, cooperation and trust, social and cultural context for behavioral change”

<sup>125</sup> Adapted from Mayunga, “A Capital-Based Approach,” 6; Ostadtaghizadeh et al., “Community Disaster Resilience,” 6; Norris et al., “Community Resilience as a Metaphor,” 136; Cutter, “Disaster Resilience Indicators,” 754; Buckle, “Assessing Social Resilience,” 97–98; Chandra et al., *Building Community Resilience to Disasters*, 4; Parsons et al., “Top-Down Assessment of Disaster Resilience,” 7.

## 1. Community

It is important here to discuss definitions of “community” to distinguish resilience at a community level from that which manifests in an ecological system or an individual. Defining community is particularly important in the context of this thesis, as both CDR and social psychology share a focus on groups of people and group dynamics. Several definitions from academic works are appropriate in this context, the most effective one being “a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or setting.”<sup>126</sup> The inclusion of social ties and common perspectives makes this definition particularly apt for comparisons with the social psychology concepts embodied in SIT.

## 2. Community Disaster Resilience

CDR has been called the “cornerstone of hazard readiness and disaster risk reduction for developed countries.”<sup>127</sup> CDR is often referred to in academic literature as community resilience, with “disaster” an implied element of the term, as each article employs it in the context of disaster resilience.<sup>128</sup> CDR is a relatively recent field of study, with academic literature labeling it an “emergent” or “nascent field” less than 10 years ago. Perhaps because it is a fairly recent term, researchers generally do not define CDR as a single concept but instead build a collective definition by defining resilience, community, and sometimes disaster in separate sections of their work. The most comprehensive definition comes from the National Research Council, which offers that “disaster resilience is . . . the ability to prepare and plan for, absorb, recover from or more successfully adapt to actual or potential adverse events” and separately mentions that the concept builds

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<sup>126</sup> Ostadtaghizadeh et al., “Community Disaster Resilience,” 3.

<sup>127</sup> Ostadtaghizadeh et al., 2.

<sup>128</sup> Cutter, “Disaster Resilience Indicators,” 741–58; Norris et al., “Community Resilience as a Metaphor,” 127–50; Daniel P. Aldrich and Michelle A. Meyer, “Social Capital and Community Resilience,” *American Behavioral Scientist* 59, no. 2 (February 2015): 254–69, <https://doi.org/10.1177/0002764214550299>; Chandra et al., *Building Community Resilience to Disasters*.

capacity through an intentionally broad sense of community.<sup>129</sup> Other definitions fail to address adaptability, leaving out the ability of the community to improve following adversity. One work defines CDR as “the ability of a community or social unit to withstand external shocks such as disaster to its infrastructure . . . and adapt to stress and return to healthy functioning.”<sup>130</sup> The simplest definition of community resilience is “the sustained ability of a community to withstand and recover from adversity.”<sup>131</sup> The benefit of these broad definitions is that they include an assortment of variables and the latitude to include non-standard elements, such as groups that have not always been defined as communities and the incidents that they consider emergencies or disasters. Broad definitions of CDR also create more opportunities to find commonalities with social psychology concepts.

Social capital is one aspect of CDR commonly found in many researchers’ systems of categorization. Social capital uses a community’s social ties and networks to work together; these ties and networks in turn create and nurture connections leading to collective resiliency.<sup>132</sup> This creates a culture that builds and sustains a strong sense of community, a notion also directly tied to social capital and CDR. These bonds are a type of social capital, and the originating incident that creates the stress can be a disaster. Social capital is also a critical component of disaster management and resilience research, adding to its applicability as a component of CDR.<sup>133</sup> Community bonding and citizen participation are also aspects of social capital directly applicable to emergency management and CDR.<sup>134</sup> Additionally, social capital uses social bonds and social support

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<sup>129</sup> National Research Council, *Disaster Resilience: A National Imperative* (Washington, DC: National Academies Press, 2012), 14.

<sup>130</sup> National Research Council, 15.

<sup>131</sup> Chandra et al., *Building Community Resilience to Disasters*, 1.

<sup>132</sup> Mayunga, “A Capital-Based Approach.”

<sup>133</sup> Aldrich and Meyer, “Social Capital and Community Resilience,” 254–69.

<sup>134</sup> Norris et al., “Community Resilience as a Metaphor.”

to solve problems, another important quality applied to disaster preparedness and response embedded in CDR.<sup>135</sup>

One of the commonly assessed values of social capital is trust.<sup>136</sup> Research also shows that trust makes a difference in disaster recovery and preparedness. For example, communities that exhibited a high level of trust, had many robust networks, and experienced a high level of participation in community activities—all components of social capital—recovered more quickly from the Gujarat and Kobe earthquakes.<sup>137</sup> Research has also found that residents are more aware of volunteer opportunities and have greater knowledge of actions taken by the local government to manage a disaster in communities where the local government and residents trust and depend on one another. These feelings in turn support disaster preparedness and the ability to adapt to changing conditions, not to mention foster collective response, recovery, and decision-making, which work together to enhance a community's disaster resilience.<sup>138</sup> Social capital, and values within it such as trust, is also an important element of SIT.

### 3. Social Identity

One view of social psychology's purpose is to explain the flexibility of humans as they create and navigate their social world and their relationship to it.<sup>139</sup> This philosophy works well when connecting social psychology to CDR, except for one difference; social psychology in general and prominent theories within the field, such as SIT, study the individuals within a group while CDR focuses on the resilience of the group as a whole. This is to be expected, as the focus on the individual is the hallmark of psychology and

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<sup>135</sup> Mayunga, "A Capital-Based Approach"; Norris et al., "Community Resilience as a Metaphor," 127–50.

<sup>136</sup> Aldrich and Meyer, "Social Capital and Community Resilience," 254–69.

<sup>137</sup> Yoshihide Nakagawa and Rebecca Shaw, "Social Capital: A Missing Link to Disaster Recovery," *International Journal of Mass Emergencies and Disasters* 22, no. 1 (2004): 5–34.

<sup>138</sup> Aldrich and Meyer, "Social Capital and Community Resilience," 254–69.

<sup>139</sup> Stephen Reicher, "The Context of Social Identity: Domination, Resistance, and Change," *Political Psychology* 25, no. 6 (2004): 921–45.

what distinguishes it from the field of sociology, which studies the group. Despite this rather fundamental difference, the two theories share many commonalities, and SIT provides a thorough interactionist framework that can be used to understand CDR.<sup>140</sup> Norris et al. state the connection quite plainly: “In a nutshell, disaster readiness is about social change.”<sup>141</sup>

Social identity refers to a social category for a labeled group of people, which is distinguished by features or attributes that group members share, as well as rules describing membership, although these rules may not be articulated. The social identity approach makes a theoretical distinction between an individual’s personal and social identity and employs the self as a structure with levels of increasing abstraction.

The concept of social identity in social psychology depends on group membership and participation and is both relational and situational, as people participate in a variety of groups depending on the circumstances informing their lives at any point in time. Because group participation is transitory and can be inconsequential or even accidental, categories that measure identity are likewise mutable. A framework of broadly accepted rules and assumptions, which is one level of identity, helps create some consistency among the types of social categories.<sup>142</sup> The multiple levels and actors that influence social identity, along with social identity’s transitory nature, make measuring it more complex.<sup>143</sup> A framework for identity includes reasonably stable categories of membership that individuals associate

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<sup>140</sup> Reicher, “Domination, Resistance, and Change,” 921–45.

<sup>141</sup> Norris et al., “Community Resilience as a Metaphor,” 145.

<sup>142</sup> Alex Gillespie, Caroline S. Howarth, and Flora Cornish, “Four Problems for Researchers Using Social Categories,” *Culture and Psychology* 18, no. 3 (2012): 391–402.

<sup>143</sup> Rawi Abdelal et al., “Treating Identity as a Variable: Measuring The Content, Intensity, and Contestation of Identity” (paper presented at American Political Science Association Conference, San Francisco, 2001).

with experiences and meanings.<sup>144</sup> SIT proposes that individuals seek out and derive satisfaction from membership groups with positive social identities.<sup>145</sup>

A person's social reality is defined by the customs and beliefs of the group with which the person most closely identifies, in turn determined by categorization and salience.<sup>146</sup> One method of defining common group members is to look at how people act and treat others, and when behavior is assigned to a given social identity, exploring the beliefs, norms, and values associated with the identity will frame the behaviors.<sup>147</sup> Interestingly, social identities based on loosely associated characteristics, such as self-selected groups, can affect attitudes and behavior as much as groups based on more enduring qualities.<sup>148</sup>

#### 4. Self-Categorization

Identity gives people groupings that they use to sort themselves into categories.<sup>149</sup> People self-categorize based on multiple factors across their personal timeline in varying levels of abstraction, including experiences, expectations, values, and needs. People self-select categorizations that are central, relevant, and useful to them at any given point in time.<sup>150</sup> Categorization is comparative in nature, at the most basic level distinguishing between “us” and “them,” a distinction that SIT theorists often label the in-group and out-group. Categorization is intrinsically variable, fluid, and context dependent.<sup>151</sup> Self-

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<sup>144</sup> Abdelal et al.

<sup>145</sup> Henri Tajfel and John C. Turner, “The Social Identity Theory of Intergroup Behavior,” in *Psychology of Intergroup Relations*, ed. S. Worchel and W. G. Austen (Chicago: Nelson-Hall, 1985), 7–24.

<sup>146</sup> Reicher, “Domination, Resistance, and Change,” 921–45.

<sup>147</sup> Reicher, 921–45.

<sup>148</sup> Joel T. Nadler and Geraldine Y. Hannon, “Self-Selected Social Identification Measure (SSIM): A Survey Assessing Identity Based on Group Membership,” *North American Journal of Psychology* 15, no. 3 (2013): 425–46, <https://doi.org/10.1177/0146167299025001010>.

<sup>149</sup> Abdelal et al., “Treating Identity as a Variable.”

<sup>150</sup> Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

<sup>151</sup> John C. Turner et al., “Self and Collective: Cognition and Social Context,” *Personality and Social Psychology Bulletin* 20, no. 5 (1994): 454–63, <https://doi.org/10.1177/0146167294205002>.

categorization is a function of how prepared a person is to use an identity, how well the characteristics of an identity fit present circumstances, and how self-concept changes as circumstances change.<sup>152</sup>

Social categories are human constructs that depend on the perspective of in-group and out-group members and are influenced by the histories of these groups.<sup>153</sup> Social categories may be disrupted by any number of factors, including the movement of people, as new experiences can inform group members in positive ways—leading to personal growth and overcoming cultural biases—or negative ways if the group member is stigmatized or not accepted socially in one’s new community. Social categories are mutable, and sometimes, creating a new inclusive category comprising members of both cultures resolves conflict between groups.<sup>154</sup>

## 5. Social Capital

One of the most enduring elements of social identity is social capital, defined here as the network of relationships among people and groups that allows a community to function effectively and the people within it to achieve more than they could individually.<sup>155</sup> Social capital links groups and individuals through commonalities, connections, and networks. These links are accessed through the norms of reciprocity and trust, and they play a role in cooperation. When a community leverages social capital, the quality and amount of civic engagement and exchanges among and between groups rise, and the community as a whole becomes more stable and better coordinated.<sup>156</sup> Social capital increases through a variety of factors that support people’s willingness to create and

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<sup>152</sup> Michelle R. Nario-Redmond et al., “The Social and Personal Identity Scale: A Measure of the Differential Importance Ascribed to Social and Personal Self-Categorizations,” *Self and Identity* 3, no. 2 (2004): 143–75.

<sup>153</sup> Gillespie, Howarth, and Cornish, “Four Problems for Researchers,” 391–402.

<sup>154</sup> Gillespie, Howarth, and Cornish, 391–402.

<sup>155</sup> Kay Deaux, “Reconstructing Social Identity,” *Personality and Social Psychology Bulletin* 19, no.1 (1993): 4–12.

<sup>156</sup> Roderick M. Kramer, “Social Identity and Social Capital: The Collective Self at Work,” *International Public Management Journal* 9, no. 1 (2006): 25–45.

maintain it.<sup>157</sup> The qualities that contribute to social capital are each important in a community's disaster preparedness and response, providing evidence for the connection between social capital and CDR.

Social capital is somewhat unique because it is a resource collectively owned and accessible to everyone individually through their own networks.<sup>158</sup> An individual's psychological identification contributes to social capital with the identities formed through relationships at various levels, namely within an institution, a subgroup, and the collective identities of a community, as well as the relationships among the identities.<sup>159</sup> Social capital is often divided into multiple forms, including personal, bonding, bridging, and linking.<sup>160</sup> Personal social capital occurs at the individual internal level, including the decision to contribute to the resource.<sup>161</sup> Bonding social capital occurs due to close relationships, such as family members and good friends.<sup>162</sup> Bridging social capital occurs within the same social group among people who are not personally close, such as loose friendships. Bridging is more outward-focused and civic-minded.<sup>163</sup> Bridging can also occur across social groups that share a connection or similar social standing.<sup>164</sup> Linking social capital extends across groups of different social standing or power.<sup>165</sup> Social capital can affect an individual in three of these forms: personal social capital at the individual level, bonding social capital at the in-group level, or bridging social capital across

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<sup>157</sup> Kramer, 25–45.

<sup>158</sup> Kramer, 25–45.

<sup>159</sup> Kramer, 25–45.

<sup>160</sup> Humnath Bhandhari and Kumi Yasunobo, "What Is Social Capital? A Comprehensive Review of the Literature," *Asian Journal of Social Science* 37 no. 3 (2009): 480–510, <https://doi.org/10.1163/156853109X436847>.

<sup>161</sup> Bhandhari and Yasunobo, 480–510.

<sup>162</sup> Bhandhari and Yasunobo, 480–510.

<sup>163</sup> Bhandhari and Yasunobo, 480–510.

<sup>164</sup> Bhandhari and Yasunobo, 480–510.

<sup>165</sup> Bhandhari and Yasunobo, 480–510.

groups.<sup>166</sup> Social capital is an important aspect of in-group identities because when they are salient, individuals focus their thoughts and actions on the impact to the group as a unit and evaluate the group in relation to other groups.<sup>167</sup>

One unique characteristic of social capital as a resource is that it is collectively owned and accessed by individuals in the group as needed.<sup>168</sup> Moreover, which identity operates at any given time shifts dynamically, depending on context.<sup>169</sup> Individuals actively select whether they operate at the interpersonal or intergroup level depending on which is most relevant and useful.<sup>170</sup> Research shows that the willingness of an individual to categorize in-group terms and identify with a group varies depending on how relevant a categorization is at a point in time.<sup>171</sup> Membership in a group that is civic-minded and focused on the collective good becomes significant to many individuals.<sup>172</sup>

The level of social capital present in a group is malleable, so a group culture that values the collective can be intentionally created or engineered. When the level of social capital is high, the perception of collective fate is also heightened, another feature that is particularly relevant in a disaster context.<sup>173</sup> The concepts of efficacy and social capital reinforce and increase one another in iterative loops in a variety of scenarios, including geographically based identities.<sup>174</sup>

Perspectives differ in defining the geographic identity of a neighborhood, but irrespective of its category as a community, context, commodity, or consumption, each of

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<sup>166</sup> Kramer, "Social Identity and Social Capital," 25–45.

<sup>167</sup> Kramer, 25–45.

<sup>168</sup> Kramer, 25–45.

<sup>169</sup> Nario-Redmond et al., "The Social and Personal Identity Scale," 143–75.

<sup>170</sup> Nario-Redmond et al., 143–75.

<sup>171</sup> Nario-Redmond et al., 143–75.

<sup>172</sup> Nario-Redmond et al., 143–75.

<sup>173</sup> Kramer, "Social Identity and Social Capital," 25–45.

<sup>174</sup> Kramer, 25–45.

these approaches links to the idea of social capital.<sup>175</sup> Local neighborhoods endure as an important source of social identity, and they are frequently viewed as communities, composed of overlapping social networks.<sup>176</sup> A person may have multiple group memberships linked to one's neighborhood, including service groups for adults, schools for children, and churches, which are often organized geographically across relatively small areas. Mapping people's connections to their neighborhoods reveals multiple weak ties. These weak ties can be significant, as residents have reported feeling supported, secure, and at home.<sup>177</sup>

## 6. Social Cohesion

Neighborhoods are the source of mundane routines for many residents, a fecund atmosphere for social cohesion, a concept originating with local social capital that focuses on persevering through the routine and persistent challenges of daily life.<sup>178</sup> Social cohesion can also be important while preparing for or responding to disasters; these activities may not usually be considered mundane, but they do embody the enduring nature of people in survival mode, who are focused on getting by and getting on despite the disaster. Social cohesion can emphasize the need for common purpose, another feature of CDR, and this emphasis imparts a sense of belonging to place.<sup>179</sup> The concept of social cohesion is related to the idea of neighborhood as community, sharing domains such as emphasizing a culture of municipal togetherness, an orderly society that agrees on its social limits; reducing the monetary difference between the richest and poorest households; gaining a sense of belonging and identity from the neighborhood; and maintaining social networks and social capital.<sup>180</sup> Social capital is in turn related to neighborhood policy

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<sup>175</sup> Forrest and Kearns, "Social Cohesion," 2125–43.

<sup>176</sup> Forrest and Kearns, 2125–43.

<sup>177</sup> Forrest and Kearns, 2125–43.

<sup>178</sup> Forrest and Kearns, 2125–43.

<sup>179</sup> Forrest and Kearns, 2125–43.

<sup>180</sup> Forrest and Kearns, 2125–43.

support, as the two concepts share the common domains of empowering individuals; participating in activities; supporting a common purpose or goal; exchanging goods and support through networks; establishing group values and norms; and maintaining an atmosphere that fosters belonging and a culture of safety and trust in the community, its members, and organizations.<sup>181</sup> These domains demonstrate strong links to CDR through shared concepts espoused by multiple researchers, including social capital, community competence, shared community values, and established social infrastructure.<sup>182</sup>

## 7. Collective Action

People and groups may view identity as either a personal identity unique to themselves or a common collective identity held by the group, based on the characteristics of the group they most identify with, for example, their neighborhood. Collective identity integrates aspects of multiple approaches to social identity.<sup>183</sup> The collective self is a mechanism that uses changes in everyday interactions perceived through a socially defined lens.<sup>184</sup> Across a range of circumstances, when collective identity is pertinent, group members focus on the collective effect, and the resulting action taken by the group to achieve a common objective is referred to as a collective action.<sup>185</sup>

The individual change in thinking about the collective good and moving from a mindset that Kramer calls “I to us to we” is important.<sup>186</sup> Individuals perceive others similar to their saliency of self. When a person’s mindset focuses on the individual, the differences between you and me are salient. When a person’s mindset focuses on intergroup relations, the differences between the in-group and out-group are salient. When

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<sup>181</sup> Forrest and Kearns, 2125–43.

<sup>182</sup> Norris et al., “Community Resilience as a Metaphor,” 127–50; Buckle, “Assessing Social Resilience,” 88–104.

<sup>183</sup> Patricia Obst et al., “Social Identification Dimensions as Mediators of the Effect of Prototypicality on Intergroup Behaviours,” *Psychology* 2, no. 5 (2011): 426–32.

<sup>184</sup> Turner et al., “Self and Collective,” 454–63.

<sup>185</sup> Kramer, “Social Identity and Social Capital,” 25–45.

<sup>186</sup> Kramer, 32.

a person's mindset focuses on the collective, salience depends on where others are in relation to the collective. Individuals can experience cognitive transformations if there is a change in how important a social identity is to them, and these transformations are categorized based on whether the effect is related to self or social categorization, based on the level of salient social identity.<sup>187</sup> Collective identities can also build moralistic trust, whereby individuals feel obligated to behave in ways that engender the trust of the collective.<sup>188</sup>

In a variety of contexts, social identity provides a solid framework for understanding collective behaviors.<sup>189</sup> Generally, social identity accurately forecasts and explains collective action, based on predictions from people's attitudes, intentions, or tendencies and actual behavior.<sup>190</sup> People who are more strongly motivated to involve themselves in a collective action also experience a more powerful connection to the social identity, and this effect may go beyond simple in-group/out-group distinctions.<sup>191</sup> Identity affects predictions about action in three ways. The first of these is indirect, whereby identity allows one to interpret the external world. The second relates to the theory of action in SIT, which is driven by behavioral differences between the in-group and out-group, because action is predicated on reacting to those out-group "others."<sup>192</sup> The third corresponds to the expected behavior based on roles within the group.<sup>193</sup> Differences are analyzed based on the functions that identities serve and the kinds of activities that identities might predict.<sup>194</sup>

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<sup>187</sup> Kramer, 25–45.

<sup>188</sup> Kramer, 25–45.

<sup>189</sup> Reicher, "Domination, Resistance, and Change," 921–45.

<sup>190</sup> Van Zomeren, Postmes, and Spears, "Toward an Integrative Social Identity Model," 504–35.

<sup>191</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>192</sup> Kawakami and Dion, "Determinants of Collective Action," 551–77.

<sup>193</sup> Abdelal et al., "Treating Identity as a Variable."

<sup>194</sup> Deaux, "Reconstructing Social Identity," 4–12.

Predictors of collective action are important in the context of CDR and disaster response. According to SIT, injustice, efficacy, and identity predict collective action, which involves behavior of the group for the benefit of the group and not members within it.<sup>195</sup> The strongest predictor of collective action occurs through identification with a group experiencing negative effects of inequity.<sup>196</sup> Social identity helps relatively powerless people feel empowered during disadvantaging incidents and challenge those in power, allowing people to meet the challenges they face by relying on social cooperation in groups.<sup>197</sup> Social cooperation is a component of collective action and relates to taking action for the public good, sharing information with others to improve outcomes for the collective good, and taking action across groups to preserve resources when they are scarce.<sup>198</sup>

Some approaches to collective action assume that it is a response to adverse conditions and/or deprivation that causes an objective state of disadvantage, with the implication that specific conditions are the causes of collective strife.<sup>199</sup> This has been studied regarding political action, social change, and social justice, but collective action also occurs in other types of conditions. To respond to incidental, situation-based disadvantage, people need first to form a sense of social identity revolving around their shared fate.<sup>200</sup>

Research shows that collective action is likely when a group experiences the negative effects of inequity and form a new situational group membership, and the intergroup comparisons match the nature of the collective action.<sup>201</sup> Group-based

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<sup>195</sup> Turner et al., “Self and Collective,” 454–63; Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

<sup>196</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>197</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>198</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>199</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>200</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>201</sup> Van Zomeren, Postmes, and Spears, 504–35.

emotions also seem to motivate collective action, as feelings of deprivation, especially if perceived as unjust, have been shown to predict collective action.<sup>202</sup> This effect is enhanced by group efficacy, “the shared belief that one’s group can resolve its grievances through unified effort,” giving rise to a feeling of collective power focused on the group’s belief that it can transform the situation and change the future of the group.<sup>203</sup> Research has also shown that decisions made during a collective action come from rational individual group members; the decisions themselves need not be collective.<sup>204</sup> Effective leaders are seen by Reicher as “entrepreneurs of identity,” who define group identity and shape collective action in ways that seem like a natural implementation of pre-existing group norms.<sup>205</sup>

### C. ASSESSMENT

One method to compare features from two different theories is to analyze commonalities in the assessments that measure them. Initially, I had hoped to find universal or standard measurement scales and characteristics applied consistently to social identity that I could then compare to the scales and characteristics of CDR. I thought that I would find a set or subset of variables that aligned between SIT and CDR. This proved to be elusive. Measuring social identity is possible, and multiple scales and subscales have been created to do so, although there are definite gaps in this area of study. Perhaps it is not surprising for a field that so values context to find that few standard measurements for social identity have been developed. Social psychologists often study a concept at a particular moment in time affecting a specific, narrowly defined population, from which the field gains insight into how the studied processes operate at that time but contributes nominally across a broader context.<sup>206</sup>

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<sup>202</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>203</sup> Van Zomeren, Postmes, and Spears, 507.

<sup>204</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>205</sup> Reicher, “Domination, Resistance, and Change,” 921–45.

<sup>206</sup> Deaux, “Reconstructing Social Identity,” 4–12.

I was unable to find assessments with identical components between CDR and SIT, but connections were definitely present. Neither field has achieved a universally agreed-upon approach to assessment; conversely, both fields often develop measures designed for a specific study that is not broadly applicable. Researchers often develop unique custom scales suited to their particular studies, which make it difficult to compare results across studies or use the same scale in a different context. As Cutter points out, using highly specific measures that apply in a particular context is advantageous for creating community buy-in and monitoring future change in the metrics, which does make sense for these theories.<sup>207</sup> Assessments of the two theories do have some connections between variables, as discussed in the following paragraphs, and these connections are important as assessment is the component of research that provides evidence—how else can one show a theory in action or demonstrate change? If CDR and SIT are connected, there should be some common characteristics of measurement.

Support from outside groups has been reliably correlated using the self-selected social identification measure (SSIM).<sup>208</sup> Spontaneous post-disaster grouping might also be significant.<sup>209</sup> Indeed, utilizing one’s own social network, strategies, and group resources and developing connections with new social groups in meaningful ways affect support and grouping, which are important for CDR.<sup>210</sup>

One multi-component social identity scale that shows promise for use with CDR is from the research team of Ellemers, Kortekaas, and Ouwerkerk, who identifies and measures three characteristics: self-categorization, commitment to the group, and group

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<sup>207</sup> Cutter, “Disaster Resilience Indicators,” 741–58.

<sup>208</sup> Nadler and Hannon, “Self-Selected Social Identification Measure,” 425–46.

<sup>209</sup> Tegan Cruwys et al., “Social Identity Mapping: A Procedure for Visual Representation and Assessment of Subjective Multiple Group Memberships,” *British Journal of Social Psychology* 55, no. 4 (2016): 613–42, <https://doi.org/10.1111/bjso.12155>.

<sup>210</sup> Cruwys et al., 613–42.

self-esteem.<sup>211</sup> Roccas et al. propose a condensed model, containing four dimensions of identity, of which some may be relevant to CDR: importance, commitment, superiority, and deference.<sup>212</sup>

Scales that measure collective identity can be useful to CDR because collective connects to community. In the social and personal identities (SIPI) scale, collective identity is correlated with collective self-esteem and identity, and public self-consciousness.<sup>213</sup> Individuals who score highest in social identity belong to more groups in general and identify as members of religious groups and political parties that emphasize group identity. This finding may be useful for CDR in determining which communities might be more resilient, as well as help a community identify groups that may be the most willing to help in a disaster or areas where it might be easiest to raise a community's CDR.

I began my analysis with six characteristics compiled from various SIT models of assessment. These characteristics fell into one of two domains, one measuring outcomes based on a collective group mindset and the other measuring outcomes based on the relationships of groups to members. The collective domain comprises three characteristics: collective action, collective efficacy, and collective identity. The relationship domain comprises the other three characteristics: support from outside groups, networks, and social group membership. I then aligned the descriptors of each CDR component with the SIT characteristics (see Figure 1).

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<sup>211</sup> Naomi Ellemers, Paulien Kortekaas, and Jaap W. Ouwerkerk, "Self-Categorisation, Commitment to the Group and Group Self-Esteem as Related but Distinct Aspects of Social Identity," *European Journal of Social Psychology* 29, no. 2-3 (1999): 375-76.

<sup>212</sup> Sonia Roccas et al., "Toward a Unifying Model of Identification with Groups: Integrating Theoretical Perspectives," *Personality and Social Psychology Review* 12, no. 3 (2008): 282.

<sup>213</sup> Nario-Redmond et al., "The Social and Personal Identity Scale," 143-75.

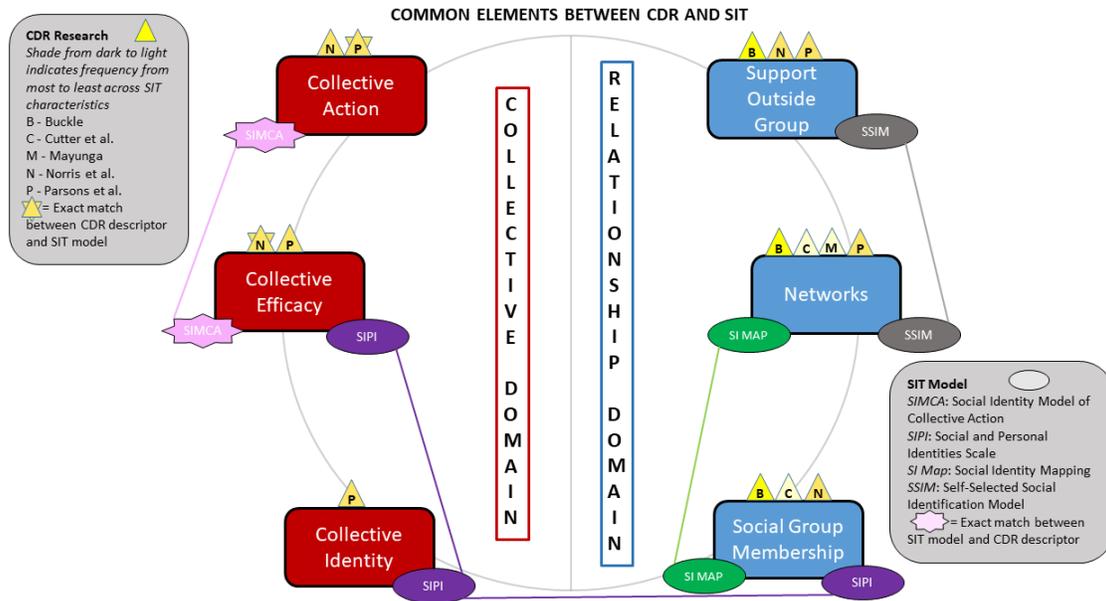


Figure 1. Common Elements between CDR and SIT

Two of the SIT models yielded no common results and were removed from the data set as irrelevant. Of the seven CDR studies analyzed, two did not have descriptors that fit within any of the SIT characteristics. One of the studies that did not fit (Ostadtaghizadeh et al.) based its components of CDR on an analysis of metadata, and the descriptors of the components were simply too broad to analyze with any degree of confidence.<sup>214</sup> I was surprised that the other study (Chandra et al.) yielded no commonalities. The only distinguishing feature that set this study apart from the others was that instead of a multi-hazard, general purpose CDR framework, it proposed a CDR framework specific to health security.<sup>215</sup> The resulting components and descriptors used in the study seemed general enough to apply but did not align with any of the SIT characteristics or models.

The number of CDR studies associated with each SIT characteristic varied, as did the strength of the association. Four of five CDR studies had descriptors that fit within multiple SIT characteristics, and the fifth (Mayunga) aligned with only one SIT

<sup>214</sup> Ostadtaghizadeh et al., “Community Disaster Resilience.”

<sup>215</sup> Chandra et al., *Building Community Resilience to Disasters*.

characteristic, and that was the characteristic with the greatest number of CDR studies associated with it.<sup>216</sup> All five of the CDR studies aligned with more than one SIT characteristic in the relationship domain, and each of the three characteristics had three or four CDR studies associated with it. The support from outside groups characteristic shared common features with the CDR studies of Buckle, Norris et al., and Parsons et al.<sup>217</sup> In Buckle's partnerships element, support is implied by the definition, which is expressed as facilitating shared experiences and resources of partnerships between agencies, community groups, and private enterprise.<sup>218</sup> In the Norris et al. study, support from outside groups is a component of social capital networked resources, described as organizational linkages and cooperation.<sup>219</sup> This characteristic is an implied part of social networks in the community capital theme from Parsons et al.<sup>220</sup> The networks characteristic had the greatest number of associated CDR studies, sharing common features with four, including Buckle, Cutter et al., Mayunga, and Parsons et al.<sup>221</sup> This characteristic was included by Mayunga as part of the description of social capital, defined as trust, norms, and networks that facilitate coordination, cooperation, and access to resources.<sup>222</sup> It was part of Cutter's definition of social indicators, expressed as social networks and social embeddedness.<sup>223</sup> Buckle described it similarly, listing it as social networks and community organizations in his established social infrastructure element.<sup>224</sup> The connection was implied in the Parsons

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<sup>216</sup> Mayunga, "A Capital-Based Approach."

<sup>217</sup> Buckle, "Assessing Social Resilience," 88–104; Norris et al., "Community Resilience as a Metaphor," 127–50; Parsons et al., "Top-Down Assessment of Disaster Resilience," 1–11.

<sup>218</sup> Buckle, "Assessing Social Resilience," 88–104.

<sup>219</sup> Norris et al., "Community Resilience as a Metaphor," 127–50.

<sup>220</sup> Parsons et al., "Top-Down Assessment of Disaster Resilience," 1–11.

<sup>221</sup> Buckle, "Assessing Social Resilience," 88–104; Cutter, "Disaster Resilience Indicators," 741–58; Norris et al., "Community Resilience as a Metaphor," 127–50; Parsons et al., "Top-Down Assessment of Disaster Resilience," 1–11.

<sup>222</sup> Mayunga, "A Capital-Based Approach."

<sup>223</sup> Cutter, "Disaster Resilience Indicators," 741–58.

<sup>224</sup> Buckle, "Assessing Social Resilience," 88–104.

et al. study through the mention of linking social capital, which occurs between different in-groups through the use of members' networks.<sup>225</sup>

The social group membership characteristic shared common features with the Buckle, Cutter et al., and Norris et al. CDR studies.<sup>226</sup> It was described by Buckle as the partnerships element, including those between agencies, community groups, and private enterprise that facilitated shared experiences and resources.<sup>227</sup> Norris et al. defined this characteristic as the organizational linkages and cooperation portion of their networked resources, and it was implied in the social networks and social embeddedness aspect of the social indicators of the Cutter study.<sup>228</sup>

All three SIT characteristics in the collective domain correlated with the Parsons et al. CDR study, which was the only study associated with the SIT collective identity characteristic.<sup>229</sup> The description of the community capital theme described, in part, several types of social capital that enhance collective problem-solving, a quality that implies a collective identity.<sup>230</sup> The other two SIT characteristics in the collective domain also shared common features with the Norris et al. CDR study.<sup>231</sup> The collective efficacy characteristic was explicitly described by Norris et al. as one of the features defining community competence networked resources and implied efficacy through the collective problem-solving previously mentioned as part of the Parsons et al. definition of community capital.<sup>232</sup> The final SIT characteristic, collective action, was expressed as community

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<sup>225</sup> Parsons et al., "Top-Down Assessment of Disaster Resilience," 1–11.

<sup>226</sup> Buckle, "Assessing Social Resilience," 88–104; Cutter, "Disaster Resilience Indicators," 741–58; Norris et al., "Community Resilience as a Metaphor," 127–50.

<sup>227</sup> Buckle, "Assessing Social Resilience," 88–104.

<sup>228</sup> Cutter, "Disaster Resilience Indicators," 741–58; Norris et al., "Community Resilience as a Metaphor," 127–50.

<sup>229</sup> Parsons et al., "Top-Down Assessment of Disaster Resilience," 1–11.

<sup>230</sup> Parsons et al., 1–11.

<sup>231</sup> Norris et al., "Community Resilience as a Metaphor," 127–50.

<sup>232</sup> Norris et al., "Community Resilience as a Metaphor," 127–50; Parsons et al., "Top-Down Assessment of Disaster Resilience," 1–11.

action and collective efficacy and empowerment in the networked resource of community competence in Norris et al.<sup>233</sup> Collective action was an implied characteristic in the work of Parsons et al., where the actions of collective problem-solving and behavioral change were respectively features of the community capital and social and community engagement themes.<sup>234</sup>

In addition to connections with SIT characteristics, strong connections were found between individual SIT assessment models and the CDR studies. All of the strongest connections occurred in the collective domain, with one strong connection discovered in each of the three characteristics of the collective domain. The collective action characteristic from the social identity model of collective action (SIMCA) shared the strongest tie with the Parsons et al. study.<sup>235</sup> The creators of SIMCA posited that collective action requires an existing social identity to transform, sometimes due to an incident or event that creates a disadvantage for a group.<sup>236</sup> This idea was a complete match with the social and community engagement adaptive capacity theme in the work of Parsons et al., where adaptive capacity was defined as “adaptation involv [ing] deliberate incremental and transformational change across social, government and economic systems.”<sup>237</sup> The collective efficacy characteristic, which applies to both the SIMCA and SIPI models of SIT, shared the strongest tie between the SIMCA model and the Norris et al. CDR study.<sup>238</sup> SIPI measures identity with broad terms and categories regarding self-esteem, positivity associated with one’s self-identity, the value of individualized self-views, and the

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<sup>233</sup> Norris et al., “Community Resilience as a Metaphor,” 127–50.

<sup>234</sup> Parsons et al., “Top-Down Assessment of Disaster Resilience,” 1–11.

<sup>235</sup> Parsons et al., “Top-Down Assessment of Disaster Resilience,” 1–11; Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

<sup>236</sup> Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

<sup>237</sup> Parsons et al., “Top-Down Assessment of Disaster Resilience,” 6.

<sup>238</sup> Nario-Redmond et al., “The Social and Personal Identity Scale,” 143–75; Norris et al., “Community Resilience as a Metaphor,” 127–50; Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

importance of one's own social group memberships.<sup>239</sup> One of the predictors of collective action in SIMCA is efficacy, and this concept is identical to the adaptive capacity of community competence found in Norris et al., partially defined as community action and collective efficacy.<sup>240</sup> Only one SIT characteristic, collective identity, shared features with a single CDR study (Parsons et al.) and a single model (SIPI).<sup>241</sup> This connection was a strong one but slightly less so than the previous two examples. In the Parsons et al. study, adaptive capacity allowed a community to transform in that "behavioral change has a social and cultural context."<sup>242</sup> This description was more significant than one of the findings in the SIPI study, which noted that culture plays a part in the strength of collective identity.<sup>243</sup>

SIPI was the only SIT model that transcended both domains and included four of the CDR studies across three SIT characteristics.<sup>244</sup> Each of the SIT models aligned with at least two of the SIT characteristics, and every model shared at least one characteristic with another SIT model, leading to a daisy-chain pattern of connection among the models. The collective action characteristic was associated with SIMCA, which was also associated with the collective efficacy characteristic, as was the SIPI model.<sup>245</sup> SIPI was associated with the collective identity characteristic and the social group membership characteristic, as was the social identity mapping model.<sup>246</sup> The social identity mapping model was associated with the networks characteristic, as was the SSIM, which was connected to the

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<sup>239</sup> Nario-Redmond et al., "The Social and Personal Identity Scale," 143–75.

<sup>240</sup> Norris et al., "Community Resilience as a Metaphor," 127–50; Van Zomeren, Postmes, and Spears, "Toward an Integrative Social Identity Model," 504–35.

<sup>241</sup> Nario-Redmond et al., "The Social and Personal Identity Scale," 143–75; Parsons et al., "Top-Down Assessment of Disaster Resilience," 1–11.

<sup>242</sup> Parsons et al., "Top-Down Assessment of Disaster Resilience," 7.

<sup>243</sup> Nario-Redmond et al., "The Social and Personal Identity Scale," 143–75.

<sup>244</sup> Nario-Redmond et al., 143–75.

<sup>245</sup> Nario-Redmond et al., "The Social and Personal Identity Scale," 143–75; Van Zomeren, Postmes, and Spears, "Toward an Integrative Social Identity Model," 504–35.

<sup>246</sup> Cruwys et al., "Social Identity Mapping," 613–16; Van Zomeren, Postmes, and Spears, "Toward an Integrative Social Identity Model," 504–35.

support from outside groups characteristic.<sup>247</sup> All of these commonalities helped to provide evidence that the two fields are connected.

The work above presents the thinking and processes that informed the data collection and analysis. Links between SIT and CDR characteristics exist in the academic literature and appear to show an enduring connection, both wide and deep, between the fields of social psychology and CDR. The significance of these connections is discussed in the final chapter.

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<sup>247</sup> Cruwys et al., “Social Identity Mapping,” 613–42; Nadler and Hannon, “Self-Selected Social Identification Measure,” 425–46.

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## V. DISCUSSION

The purpose of this qualitative academic literature review is to show a connection between CDR and social psychology, specifically SIT, and explore how social identity might be used to adapt CDR tools as expressed in these two research questions:

1. Do existing theories in social psychology validate community disaster resilience?
2. How can existing social psychology theories be used to adapt community disaster resilience tools to meet the needs of a specific community?

This chapter includes a discussion of the major findings from the literature on common components of CDR and SIT that may apply to both theories. The chapter concludes with a discussion of the limitations of this thesis, areas for future research, practical applications, and a brief summary.

### A. INTERPRETATION OF THE FINDINGS

The findings in this thesis show multiple components that parallel one another between CDR and SIT, which help make the case that CDR has roots in social psychology and is a concept of academic and practical value. The two theories share many commonalities, and SIT provides a thorough interactionist framework that can be used to understand CDR.<sup>248</sup> The most prevalent connection is through the concept of social capital, which concerns the benefits of social ties and networks of a community that can act as force multipliers to positively affect the outcome of a disaster. Another common concept that informs both theories is self-categorization—the groups to which a person chooses to belong—which can be crucial during a disaster, as spontaneous groups arise to manage disaster response in the community. The concept of collective action, those actions taken by a group as an entity, also applies to both theories and can be particularly influential during disaster response. In addition, the two theories have some related assessment variables, contributing to the work of determining the impact of CDR or SIT. Each of these

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<sup>248</sup> Reicher, “Domination, Resistance, and Change,” 921–45.

common factors of CDR and SIT is discussed in detail below, and the association is made between the two theories, sometimes by connecting both to their application in a disaster context.

## 1. Definitions

Before other connections are discussed, it is important to establish the similarity between the terms that define the two theories. CDR and SIT share a focus on groups of people and group dynamics and defining terms that are functionally quite similar. A social identity is defined by Tajfel as “the individual’s knowledge that he belongs to certain social groups together with some emotional and value significance to him of this group membership.”<sup>249</sup> Ostadtaghizadeh et al. define community as “a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or setting.”<sup>250</sup> At their most basic level, both terms can be reduced to groups of people with something in common. Establishing a common definition is a foundation for the other findings in this chapter.

To best connect the two theories, it is also important to establish that SIT can be applied in a disaster context, as a disaster is a necessary component of CDR. The definition of CDR used in the research of Plough et al.—“the sustained ability of a community to withstand and recover from adversity”—is helpful in this regard, as a broad definition such as this one can include a wide variety of variables and the latitude to include groups that have not always been defined as communities and incidents that may not traditionally qualify as disasters.<sup>251</sup> Broad definitions of CDR create opportunities to find common ground with SIT.

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<sup>249</sup> Henri Tajfel, “La catégorisation sociale” [Social categorization], in *Introduction à la psychologie sociale*, vol. 1, ed. Serge Moscovici (Paris: Larousse, 1972), 251.

<sup>250</sup> Ostadtaghizadeh et al., “Community Disaster Resilience,” 4.

<sup>251</sup> Plough et al., “Building Community Disaster Resilience,” 1190–97.

## 2. Social Capital

Social capital refers to a community's social ties and networks and is a prevalent aspect of both CDR and SIT. It is the most common shared component of the theories in the academic literature of both fields, creating the strongest evidence that CDR is informed by SIT.<sup>252</sup> Its near-ubiquitous appearance in academic literature marks it as a core component of CDR, embraced across the field by a wide variety of researchers and applied to a wide variety of subjects and conditions, and highlights its importance. As pointed out by Mayunga, the considerable value of social capital to CDR is in using those community ties and networks to create and nurture the connections that lead to collective resiliency.<sup>253</sup>

Disasters strikingly illustrate the impact of social capital across multiple forms and show the relevance of the concept to SIT and CDR. A disaster can have a unique impact on group membership, which may become more or less salient to individuals based on how the disaster has personally affected them, in an example of personal social capital. Spontaneous community groups, often based on existing community ties, demonstrate bridging social capital by forming post-disaster response groups, be they for rescue, repairs, first aid, hunger, or other needs. Those who are personally affected by the disaster form their own in-group, exhibiting bonding social capital. Membership in a disaster response group that is civic-minded and focused on the collective good becomes a salient case of linking social capital.

## 3. Social Cohesion

The work of Forrest and Kearns on social cohesion and social identity offers another connection between the two theories, connecting to SIT through the link established in their research.<sup>254</sup> Social cohesion is a process founded on neighborhood

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<sup>252</sup> Mayunga, "A Capital-Based Approach"; Ostadtaghizadeh et al., "Community Disaster Resilience"; Norris et al., "Community Resilience as a Metaphor," 127–50; Cutter, "Disaster Resilience Indicators," 741–58; Buckle, "Assessing Social Resilience," 88–104; Chandra et al., *Building Community Resilience to Disasters*.

<sup>253</sup> Mayunga, "A Capital-Based Approach."

<sup>254</sup> Forrest and Kearns, "Social Cohesion," 2125–43.

social capital and concerned with everyday “getting by and getting on” connections and activities. Its roots in social capital, which earlier were shown to connect to both theories, extend a connection to CDR. Social cohesion can also be extrapolated directly to a disaster context; while the actions of preparing for or responding to disasters are not usually considered mundane activities, the enduring nature of people in survival mode embodies the same sort of focus as getting through the day. Social cohesion can emphasize the need for common purpose, another feature of CDR, and this emphasis imparts a sense of belonging to place, which is an additional component of social cohesion.<sup>255</sup>

The concept of social cohesion is related to the idea of the neighborhood as community in the social identity approach and demonstrates additional links to CDR through the shared concepts of community competence, community values, and established social infrastructure.<sup>256</sup> The implications of neighborhood identity are quite salient in considering CDR. A community can be conceptualized and defined geographically by a neighborhood. Many disaster preparedness efforts specifically target preparedness in and for the neighborhood, including two of the largest and best-known preparedness efforts in the United States: the Community Emergency Response Team (CERT) and Map Your Neighborhood (MYN). Neighborhood cohesion and a strong neighborhood identity can greatly assist in establishing and sustaining CERT and MYN programs, which could increase the disaster resilience of a community.

#### **4. Self-Categorization**

Social identity is an approach used in social psychology and other fields that explores the meanings behind humans’ categorization of self and others. Within this approach, SIT studies self-definitions in terms of shared similarities with members of certain social categories contrasted with other social categories, creating in-group versus out-group, us versus them expectations.<sup>257</sup> SIT posits that in general, people endeavor to

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<sup>255</sup> Forrest and Kearns, 2125–43.

<sup>256</sup> Norris et al., “Community Resilience as a Metaphor,” 127–50; Buckle, “Assessing Social Resilience,” 88–104.

<sup>257</sup> Abdelal et al., “Treating Identity as a Variable.”

create and maintain the positive social identities of their membership groups and that they benefit from this stance.<sup>258</sup> Identity presents a set of types that individuals use for self-categorization—a person’s perception of one’s own group memberships and an inherently comparative function of social identity.<sup>259</sup> Categorization concerns group membership, thus creating a connection to CDR, which depends on a community’s being defined as a group of people. In-group and out-group categories are applicable to CDR, in considering both one’s community as an in-group and one’s fellow survivors in a disaster. Context and variability of categorization as considerations of self-categorization are beneficial to CDR applications, as the context of disaster conditions—and the impact on a person and group as well as their self-categorizations—may also change.

The fluid nature of self-categorization has a beneficial connection to disasters and, thus, lends another link to CDR, as a disaster is a likewise transitory event and largely relevant to the general public, only when the disaster is occurring and to the individuals who are affected by it. During a disaster, groups may spontaneously form or strengthen as needed for disaster response—and sometimes for preparedness activities. Research by Nario-Redmond et al. shows that a person’s willingness to categorize and identify with a group varies based on how relevant a categorization is at a point in time.<sup>260</sup> Variation in self-categorization is the rule and may be the ultimate survival strategy during a disaster, as one may well choose to participate in a disaster-motivated group based on the situational reality that applies.<sup>261</sup>

## **5. Collective Action**

Collective action is a construct relevant to CDR, as disaster resilience can be created through the collective actions taken by a group or community during a time of

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<sup>258</sup> Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

<sup>259</sup> Turner et al., “Self and Collective,” 454–63.

<sup>260</sup> Nario-Redmond et al., “The Social and Personal Identity Scale,” 143–75.

<sup>261</sup> Nario-Redmond et al., 143–75.

need.<sup>262</sup> Multiple aspects of collective action affect CDR, thus reinforcing the link. For example, research has demonstrated groups that feel positive about their in-group membership are less likely to engage in out-group derogation and much more likely to function or operate as single, cohesive units.<sup>263</sup> Engaging in such collective action can also provide concrete demonstrations of CDR.<sup>264</sup> As evidence of CDR, in-group collective action arising from positive feelings about in-group membership might include community groups engaged in post-disaster drives to assist members of other communities (out-groups) who are affected by a disaster, showing that the groups are not threatened by the out-groups. Other examples include community rescue efforts, post-disaster community rebuilding efforts, and holiday food and toy drives for less-fortunate members of society.

Van Zomeren, Postmes, and Spears maintain that the best indicator of collective action is identification with a group experiencing inequity, creating another connection with CDR.<sup>265</sup> While their study examined collective action related to political action, social change, and social justice, a disaster, too, can expose an adverse condition or deprivation causing a state of disadvantage. Disasters do have an outsized effect on communities already experiencing inequities and disadvantages, as has been studied during hurricanes.<sup>266</sup> The feeling of deprivation and inequality caused by a disaster can spur group efficacy and collective action to reduce risk or address the effects of a disaster, creating the conditions for CDR. To respond to incidental, situation-based disadvantage, such as a disaster, people need first to form a sense of social identity revolving around their shared fate.<sup>267</sup> There are many examples of spontaneous groups that coalesce to assist with disaster response, including such efforts as the Cajun Navy following Hurricane Katrina

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<sup>262</sup> Turner et al., “Self and Collective,” 454–63.

<sup>263</sup> Obst et al., “Social Identification Dimensions,” 426–32.

<sup>264</sup> Turner et al., “Self and Collective,” 454–63.

<sup>265</sup> Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

<sup>266</sup> Eleanor Krause and Richard V. Reeves, “Hurricanes Hit the Poor the Hardest,” Social Mobility Memos (Washington, DC: Brookings, 2017).

<sup>267</sup> Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

and crisis-mapping of conditions, needs, and resources in several recent natural disasters.<sup>268</sup> When these types of groups assist their own communities and in-groups when they experience adverse conditions, they embody the definition of collective action and provide real-world examples of CDR at work.

Social cooperation is another distinct aspect of collective action and includes sharing vital information with others, performing actions together that conserve scarce resources, and providing for the public good.<sup>269</sup> Social cooperation is particularly salient in a community affected by and responding to a disaster, which will in turn positively affect CDR as cooperation leads to better outcomes and increases a community's disaster resilience. Conversely, the absence of social cooperation can have devastating consequences, as shown when the siloing of information among federal agencies and other authorities partially contributed to the outcome of the 9/11 attacks.<sup>270</sup>

Furthermore, research has shown that individual group members make rational decisions that lead to collective action, another link to CDR; these decision-makers may be group leaders, but the decisions themselves need not be collective.<sup>271</sup> Collective action can be shaped. It would be worth exploring with community leaders and other selected group members in a disaster-specific context whether group behavior could be intentionally shaped for more effective disaster response by a community to increase CDR.

## **6. Assessment**

Research has found that social identity models may construct meaningful associations when measuring demographic and personality variables, and those

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<sup>268</sup> Chul Hyun Park and Erik Johnston, "Crowdsourced, Voluntary Collective Action in Disasters," in *Proceedings of the 16th Annual International Conference on Digital Government Research* (New York: Association for Computing Machinery, May 2015), <https://doi.org/10.1145/2757401.2757458>.

<sup>269</sup> Van Zomeren, Postmes, and Spears, "Toward an Integrative Social Identity Model," 504–35.

<sup>270</sup> Kramer, "Social Identity and Social Capital," 25–45.

<sup>271</sup> Van Zomeren, Postmes, and Spears, "Toward an Integrative Social Identity Model," 504–35; Reicher, "Domination, Resistance, and Change," 921–45.

associations have been shown in this thesis to connect potentially with CDR.<sup>272</sup> The comparison of assessment characteristics based on models of SIT assessment reveals two types of evidence connecting CDR and SIT. Fewer strong ties between some SIT characteristics and CDR descriptors indicate evidence of deep connections between CDR and SIT. The strongest connections were among the least prolific connections, both within the SIT collective domain and its associated characteristics. The large number of looser ties between other SIT characteristics and CDR descriptors indicates broad support for connections between the two theories.

The links between CDR and SIT in measurement characteristics do not directly extend to social capital, which does not seem to be explicitly measured in SIT, perhaps because it is so embedded in the definition of social identity that assessment of social identity must be broken into smaller components. There is an implied connection, however, as several CDR studies include social capital in their assessments.<sup>273</sup>

Among specific SIT assessment models, SIMCA comes closest to direct utility for CDR through its focus on collective action, although SIMCA has been used to study social protest and political action specifically.<sup>274</sup> The creators of SIMCA posit that collective action requires an existing social identity to transform, sometimes due to an incident or event that creates a disadvantage for a group.<sup>275</sup> A disaster could easily be the incident preceding the transformation that results in collective action, further reinforcing the potential for SIMCA to be used in CDR studies of post-disaster actions.

Another model with potential applicability to CDR is social identity mapping from the research of Cruwys et al.<sup>276</sup> Social identity mapping is envisioned as a first step in creating more complex conceptions of social identity that allow for several varied domains

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<sup>272</sup> Cruwys et al., “Social Identity Mapping,” 613–42.

<sup>273</sup> Mayunga, “A Capital-Based Approach”; Norris et al., “Community Resilience as a Metaphor,” 127–50; Parsons et al., “Top-Down Assessment of Disaster Resilience,” 1–11.

<sup>274</sup> Van Zomeren, Postmes, and Spears, “Toward an Integrative Social Identity Model,” 504–35.

<sup>275</sup> Van Zomeren, Postmes, and Spears, 504–35.

<sup>276</sup> Cruwys et al., “Social Identity Mapping,” 613–42.

that define membership in social groups.<sup>277</sup> This approach may help communities that wish to engage their members intentionally in understanding and increasing their CDR—examining, for example, why some communities have not engaged with community groups, have created connections and disaster-specific community preparedness and response groups, or have increased the reach and effectiveness of existing community groups. Social identity mapping may also be applied to existing community groups to expand their focus and resilience, for example, a community with strong ties to its church building on that connection, so the church can take on disaster roles in the community. This expanded role could manifest in numerous ways, such as sponsoring a first aid course, being the hub for a neighborhood CERT, or serving as a commodity point of distribution, soup kitchen, charging hub, or disaster shelter. The approach could exponentially increase CDR in a community by using established community groups to more comprehensively and effectively meet its disaster needs.

## **B. LIMITATIONS**

The findings of this thesis are limited by several factors. One limitation is that this research assumes a social constructivist lens, where meaning is constructed through the individual's experience, informed by one's sociocultural context. SIT and CDR are both theories that allow for change to individuals and groups based on their experiences, and theories that hold a more static view of meaning are not supported by these findings. Another limitation of this thesis is that it compares two theories that have several similarities and a key difference regarding group relationships and dynamics: SIT focuses on individuals in a group while CDR focuses on the group as a whole. Some researchers might view this as an insurmountable difference, would come to a different set of conclusions than those presented here, or might also validate CDR. Additionally, this thesis did not look at sociological theories or branches of psychology beyond social psychology. While this research did find several commonalities between SIT and CDR, there could be other theories that provide as good a fit or even better than SIT. One other limitation of this study is that the findings have not been field-tested, which would provide confirmation of

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<sup>277</sup> Cruwys et al., 613–42.

them. A field study would also explore whether applying SIT to CDR in a distinct community facilitates adapting CDR to be more effective there.

## **C. RECOMMENDATIONS**

As this thesis is exploratory and theoretical in nature, there are many ways to expand on the above findings by furthering the research and implementing the findings in real-world applications.

### **1. Implications for Practitioners**

One means of applying the discoveries in this study is helping emergency managers and others looking to increase the capacities of their communities by applying SIT to groups at any phase of the disaster cycle. Understanding SIT will help civic leaders work with their communities more effectively to create more resilient communities before a disaster occurs and can positively affect disaster response and recovery efforts while they are occurring. Measures can be taken to influence group membership, social cohesion, self-categorization and collective action. These actions can strategically target community groups or influential members and can range from the simple to the complex. One example is using community messaging campaigns to expand a community's perception of which community members are part of the in-group, help people feel they are valued group members with something to contribute, and emphasize collective disaster-related actions. Campaigns that show diversity, name the community (e.g., New Yorkers, Angelenos, or Michiganders), and emphasize a community's ability to bounce back, stay strong, take care of one other, and help its neighbors can have an impact.

Leaders can also use a variety of different approaches to work with specific community groups. Groups can be inspired to widen their outreach into new geographic areas to help connect more people to their community in a meaningful way. Leaders can also help create partnerships among community groups, extending their reach and group membership numbers and diversification to connect community members. Groups can also be encouraged to expand into new activities and provide services that increase disaster resilience.

## **2. Implications for Further Research**

There are limitless research opportunities to expand on the findings in this thesis. One area to explore is to apply the findings to a particular community and see whether they can be replicated. Another area deserving of further research is disaster resilience tools. A researcher could apply the findings of this thesis to current CDR tools to see whether tweaking them to align with SIT yields better results. These tools could also be customized for use with different communities, using analytics from SIT to inform specific adaptations, and the results studied. Additional studies could be designed around developing a new CDR tool informed by the principles of SIT and evaluating its effectiveness. Each of these types of studies could be replicated in different types of communities to see whether the findings are broadly applicable.

Other types of studies can also reinforce the findings of this thesis or advance the connection between the two fields. One opportunity is to create an assessment scale designed to measure the connections between CDR and SIT. Another is validating the connection between SIT and CDR by using different parameters than those used in this research. Another opportunity to expand research in this area is to seek connections between different theories of social psychology and CDR. Stemming from the finding that connects the SIT and social justice work of Van Zomeren, Postmes, and Spears to CDR, there is also a need to explore CDR's connections to the theories of social justice and distributive justice.<sup>278</sup> Additional research is also needed to explore equity in disaster response and recovery and any connections to social psychology.

## **D. CONCLUSION**

Studying CDR and SIT together can be beneficial in effecting change in both fields, as increasing CDR in a community can be accomplished through measures aimed at the group as well as measures aimed at individual members of the community. Together, the fields also show how a social change can bring about disaster readiness. Moreover, actions taken to affect an individual's participation in, identification with, and commitment to a

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<sup>278</sup> Van Zomeren, Postmes, and Spears, "Toward an Integrative Social Identity Model," 504–35.

group change both the individual and the group. The findings of this thesis imply that SIT may amplify positive outcomes related to CDR and be applicable to preparedness, response, and recovery. Actions that lessen the impact of a disaster on a community and create stronger communities will benefit researchers, practitioners, and community members.

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