TASK GROUP MEMBERS' TALK ABOUT CONTRIBUTIONS

FROM MEMBERS OF OTHER GROUPS:

A BONA FIDE GROUP STUDY OF "RESILIENT BOULDER"

by

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A dissertation submitted to the

Faculty of the Graduate School of

the University of Colorado Boulder in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

Department of Communication

2017

TASK GROUP MEMBERS' TALK ABOUT CONTRIBUTIONS

This dissertation entitled:

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from Members of Other Groups:

A Bona Fide Group Study of "Resilient Boulder"

written by Claire S. Chase

has been approved for the Department of Communication

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IRB protocol # 14-0673

Abstract

Chase, Claire S. (Ph.D., Communication)

Task Group Members' Talk about Contributions from Members of Other Groups: A Bona Fide

   Group Study of "Resilient Boulder"

Dissertation directed by Professor Lawrence R. Frey and Assistant Professor Leah Sprain

   This applied communication research study employed the bona fide group perspective to

study how members of a public administration task group, the Resilient Boulder Working Group

(RBWG), processed contributions that they solicited from other groups. Focusing on members'

talk during group meetings, the findings from the study suggested that RBWG members' talk

closed the group's borders off to contributions solicited from other groups. Despite a mandate

from the group's funder (100 Resilient Cities) for the group's borders to be open, the group

closed its border and enacted a "container" model of groups, which created barriers to

accomplishing the group's goal of employing a resilience-thinking process. The results led to (a)

identification of the ease with which a bona fide group can isolate itself, (b) a process model for

groups seeking to enact resilience thinking that positions group members' talk as being integral

to the process, and (c) recommended practices that members can employ to align their group's

talk with their group's goals, including being open to other groups and to processes of resilience

thinking.

Acknowledgments

My personal journey to this dissertation was filled with grief, joy, adventure, heartbreak, and possibility. It began with the loss of my father and, later, the loss of my grandfather. While developing this project, I celebrated new life with the birth of my daughter and a new union in the marriage of my mother and stepfather. Along the way, there were adventures in China and the Middle East, and heartbreak, when, at almost 2 years of age, my nephew was diagnosed with leukemia. Each of these life-changing events served, in their way, as a challenge to the completion of this work, yet these events also were opportunities for reflection, reorganization, and growth; each challenge led to an opportunity to recommit to my research project.

Throughout all of the struggles and the joys, I was not alone in my journey. First, and foremost, the unwavering support, encouragement, patience, and steadfast love of Christopher made it possible for me to accomplish my goals. I am, and forever will be, grateful for the many sacrifices he made that allowed me to pursue my degree. I dedicate this dissertation to him.

I also am thankful for the encouragement that I received from others along my journey. My daughter, Evie, inspired me to keep moving forward, and gifted me her abundant grace, laughter, and perspective. My dad taught me, and continues to teach me from beyond, to be attentive to the seemingly ordinary or mundane. My mom encouraged me to accomplish my goals, work with confidence and integrity, and made my pursuit of a doctorate possible through her support. My sister and her family provided the ultimate example of perseverance, pursuit of dreams, and service to the greater good. My network of extended family members, whether by blood, marriage, or friendship, also supported me in numerous ways and I am humbled by their generosity of spirit.

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CHAPTER 1

INTRODUCTION

Talking about what other people have said or talked about ("others' talk") is a common communication process that occurs in dyads and in small groups. Although talk about others' talk, sometimes, can be *gossip*, the "unsanctioned evaluative talk about people unpresent" (Hallett, Harger, & Eder, 2009, p. 587), it also can be a sanctioned form of talk that dyads and groups, especially *task groups*—small groups comprised of 3 to 20 members who work on a specific assignment—consider in their deliberations. Some task groups, in fact, solicit and consider purposively contributions from others who are not part of those task groups. For instance, task groups in nonprofit organizations often solicit and consider expressed needs of populations that those organizations' services aim to reach, and, in for-profit organizations, task groups often conduct evaluation research to acquire—via questionnaires, focus groups, and/or textual analyses of reviews—consumers' views of their products, services, and marketing strategies. Some task groups even are commissioned or mandated, at least as part of their task, to solicit and talk about contributions from nongroup members: The judicial system, for example, requires juries to process witnesses' testimony prior to making a verdict, and legislative government groups, such as U.S. Congressional committees, seek testimony from nonmembers to inform their policy decisions and recommendations. In these and many other task groups, members acquire and consider collectively contributions of nongroup members, with those contributions playing a role in decisions or recommendations made by those task groups.

Nongroup members who are solicited to provide formal contributions to task groups are chosen, usually, for particular reasons (e.g., because they are experts or firsthand witnesses of events). One important reason for acquiring contributions from nongroup members is because

they represent or embody a particular demographic or "social category." People often classify

themselves or are classified by others as being a member of a particular social group, as is the

case when task members solicit contributions from nongroup members that include citizens,

scientists, and/or youth. In both cases, scholars use the term "group" to refer not to a small

group of people but to a population of people who share a particular characteristic or identity. In

keeping with that parlance, I refer throughout this document to this population of individuals,

solicited for their contributions as a result of classification assigned to them by the task group

studied, as "social category groups," "nongroup members," and "others."

Although scholars from across many academic disciplines have studied task groups, as

well as groups providing solicited contributions, they have not focused much on their

intersections, especially with regard to how task group members talk about formal contributions

offered to the group by nongroup members. This study explores that relationship by

investigating how a task group processed requested contributions from others who were external

to the task group. Specifically, this study focuses on a task group within the City of Boulder,

Colorado: the RBWG Working Group (hereafter, RBWG), which was charged with development

and implementation of the city's resilience strategy. In the context of RBWG, *resilience* is "the

ability of a community to prepare for and respond effectively to stress . . . preserving the quality

of life today and improving [the community's] legacy for future generations" (City of Boulder

Colorado, 2016, "What is Resilience?" para. 1). The group was created as part of the City of

Boulder's participation in the Rockefeller Foundation's 100 Resilient Cities (100RC; 2017)

initiative, whose mission involves "helping cities around the world become more resilient to the

physical, social and economic challenges that are a growing part of the 21st century" (para 1).

Although RBWG is internal to the Boulder city government, this task group's work is mandated through participation in, and funding from, 100RC (as described in Chapter 3).

RBWG is similar to other task groups in the public institutional context (e.g., U.S. Congress and governmental agencies) in that it solicits information from a variety of people as part of its assigned work. In the case of RBWG, the task group solicits contributions from various nongroup members by holding public forums and events, collecting information via survey methods, and hosting invitation-only workshops about potential shocks and stresses affecting Boulder. Contributions obtained from nongroup members then are talked about in RBWG's deliberations and play an important role in RBWG's work. Moreover, in this particular case (as in other cases), how RBWG members talk about contributions solicited from others affects RBWG's task outcomes; that is, members' talk about others' contributions is consequential to RBWG's decision making about municipal resilience strategy development and implementation. Similar to other task groups in public institutions, RBWG members' decision making affects, in both direct and indirect ways, those nongroup members whose contributions are solicited. This task group, thus, offers a rich site for understanding the nature and effects of task group talk about others' contributions.

To frame and understand important complexities in the relationship between the task group and the social category groups studied in this case, a bona fide group perspective is employed. The following section explains that theoretical perspective.

Bona Fide Group Perspective

The bona fide group perspective (BFGP) emerged during the turn in the late 1980s and early 1990s, when, as a reaction against the dominant study of small groups of college students meeting one time in a laboratory to solve an artificial problem that researchers created or

employed (e.g., NASA's "Survival on the Moon Scenario"; see

https://www.nasa.gov/pdf/166504main_Survival.pdf), scholars started investigating groups in

their "natural" environment (see, e.g., Frey, 1994; Poole, 1990; Putnam & Stohl, 1990).

However, in studying "natural groups" in situ, Putnam and Stohl (1990) argued that such a turn

demanded a shift in the conceptualization of small groups. Specifically, Putnam and Stohl

(1990) asserted that small groups no longer should be considered "containers," in which all

relevant processes and practices occur within the context of a particular small group. The

container metaphor, thus, assumed no effects of a small group's history or of external influences

on internal group dynamics (see, e.g., Frey, 2003; Kramer, 2002; Putnam & Stohl, 1990).

Challenging that assumption, the BFGP assumes that group dynamics are affected by

interactions and contexts that are both internal and external to a small group (Stohl & Putnam,

1994). Advancing the BFGP, Putnam and Stohl (1990) argued that *bona fide groups* are

characterized by two important qualities: (a) stable but permeable boundaries and (b)

interdependence with their relevant contexts. Stohl and Putnam (1994) later added a third

characteristic: shifting borders.

The first characteristic of bona fide groups describes the stable but permeable nature of

group boundaries, including individuals' membership in and outside of a group. Boundaries are

foundational to the identity of a bona fide group, and they are constructed by group members and

nonmembers. Unlike an artificial group (e.g., a laboratory-created group), a bona fide group's

permeable boundaries are fluid and dynamic, due to members entering and leaving the group,

members' affiliation with other groups, intergroup communication, and members' interactions

external to the group (Stohl & Putnam, 1994). Although bona fide groups have particular criteria

that determine their membership (e.g., organizational role, appointment, or election), making

their boundaries stable (Putnam & Stohl, 1996), at the same time, group boundaries are

permeable, because membership changes due to people joining and leaving a group, and, more

commonly, because groups are comprised of *boundary spanners*, people who hold a variety of

roles outside of any specific group to which they belong, and who represent or are expected to

represent other groups in which they are members (Stohl & Putnam, 1994). Those multiple roles

and identities affect interactions within small groups in that members draw on symbols,

perspectives, arguments, and information from their membership experiences in other groups.

Because internal group dynamics are produced and reproduced through members' interactions,

group dynamics shift as members negotiate their representation of and allegiance to other groups.

Moreover, group dynamics are affected by varying degrees to which members demonstrate

belonging, commitment, and loyalty to other groups (Putnam & Stohl, 1996).

Studies employing the BFGP point to the nature and effects of boundary permeability on

groups' identities and long-term goals. For example, Houston (2003), studying the 1996 Mt.

Everest disaster that resulted in eight deaths, found that the permeability of the small hiking

groups had an important effect on members' group identity. During the crisis, members

identified not with their hiking group but with the group of "Mt. Everest climbers." This shift

affected the identities of the small hiking groups, such that hikers' interactions and goals became

centered on the basic necessity of survival for all Mt. Everest climbers rather than on the goals of

their individual hiking groups (Houston). In Buchalter's (2003) study of two adjacent urban

neighborhoods, the permeability, or lack thereof, of neighborhood borders affected the

intergroup relations that were necessary to collaborate within the shared physical environment of

those two neighborhoods. Attempts to maintain each neighborhood's group identity by forging

impermeable boundaries to nonmembers created short-term gains for group members'

identification but had longterm negative effects on the broader group identity of neighbors and residents of the shared spaces (and the physical space, itself). Similarly, Oetzel and Robbins (2003) found that limited boundary permeability of a group of members belonging to a department of a co-operative supermarket (co-op) was consequential to the co-op's organizational mission and detrimental to the co-op's collective employee group identity. Alternatively, stable, but highly permeable boundaries were credited in Howell, Brock, and Hauser's (2003) study of Detroit Summer, a youth volunteer group, for, simultaneously, allowing fluidity and sustaining group identity as members joined and left the group. Although the youth volunteer group experienced great fluctuations in membership after its first year, it sustained changes because of internal and external understandings of the group's identity, including its mission and values. These studies, thus, have pointed to the role that varying levels of boundary permeability play with regard to members' sense of collective identity, ability of a group to meet its mission and goals, and group survival when there are significant changes in group membership.

Studies also have focused on the negotiation of boundaries that occurs when groups are confronted with particular, and, sometimes, unexpected, issues. Issues challenging a group's boundaries that have been studied include privacy dilemmas (Petronio, Jones, & Morr, 2003), a time-sensitive project (Kramer, 2002, 2005), a nonmember's request to join an insulated group (Leets & Sunwolf, 2004), and a physical crisis (Houston, 2003). For example, Petronio et al.'s (2003) study of privacy dilemmas in families explored group members' negotiation of personal and collective identities; specifically, group boundaries shifted and changed when family members were confronted with a privacy dilemma that positioned one member's personal gain against a sense of responsibility to the family group.

The principle of stable but permeable group boundaries is relevant to the study of the RBWG task group with regard to members' potential affiliation with nonmembers who are solicited for contributions. The particular definition of a social category, in which members describe a group based on its characteristics, has the potential to influence internal dynamics of bona fide groups, including members' allegiance and sense of responsibility. For instance, as shown in Houston's (2003) study, in line with the BFGP, when membership in an external group became the dominant identity for all members of particular mountain-climbing groups, the boundaries of those groups dissolved. In Houston's case, hikers' loyalty to the group of Mt. Everest climbers, with which all hiking group members identified, overruled allegiance to any particular hiking group and led to hikers privileging Mt. Everest climbers' lives over accomplishing specific hiking groups' goal of ascending the mountain.

Although the dissolution of a group is not always a negative occurrence, in light of Petronio et al.'s (2003) study of the tension between family and individual goals, it does provide evidence that the negotiation of boundaries may be related to ambiguous intergroup relations that can be created through group members' affiliation with other groups. In the case of the RBWG task group, the permeability of group boundaries includes members' negotiation of simultaneous membership in an institutional group and in a group of people solicited for contributions. According to Stohl and Putnam (1994), intergroup relations often assist groups in the construction of their borders, through conflict with or difference drawn between groups. Some interactions between bona fide groups, however, lead to ambiguous borders that are not defined easily and that result in "crisscrossing, merging, and dissolving of intergroup boundaries" (Stohl & Putnam, 1994, p. 291). To characterize this complexity of bona fide groups, Stohl and Putnam (1994) added the additional characteristic of "shifting borders." However, with the exception of

a few studies that have offered evidence of shifting group borders (e.g., Berteotti & Seibold, 1994; Conquergood, 1994), there is no empirical research of bona fide groups in which the ambiguous nature of intergroup relationships has been shown to lead to shifting borders. This study seeks to fill that gap through a case study that includes inherently ambiguous intergroup borders between the RBWG task group and nonmembers providing contributions to that group.

The second pillar of bona fide groups—the interdependence of groups with their relevant contexts—means that groups are embedded in organizational, political, social, and other environments that affect interactions in those groups (Putnam & Stohl, 1996). According to Stohl and Putnam (1994), *group context* includes the "intergroup system or the environment within which the members situate themselves" (p. 286). The interdependent and reciprocal relationship between groups and contexts in which they are embedded affects group interactions (Frey, 2003; Stohl & Putnam, 1994). Interdependence of groups with relevant contexts is a result of intergroup communication, including formal and informal interaction between groups to coordinate action and to negotiate jurisdiction or autonomy (Putnam & Stohl, 1996). Additionally, groups and group members adopt frames, collectively and individually, to make sense of intergroup relationships (Stohl & Putnam, 1994). The BFGP, thus, provides a way to interpret the complex nature of group identity, and, in particular, the embeddedness of groups within multiple contexts that affect them.

In addition to BFGP studies on stable but permeable boundaries, scholars have studied effects of relevant contexts on groups, including those contexts that "[imposed] limits, [contributed] meaning, and [shaped] the group's chances for survival" (Lammers & Krikorian, 1997, p. 23). Lammers and Krikorian (1997), for instance, found that surgical teams operated within organizational and institutional environments that affected the internal communication of

those teams. Lammers and Krikorian described contextual effects of the organization and institution as cultural orientations that structured the amount and type of communication among surgical team members; specifically, members had low levels of talk during surgeries, the event studied, but they relied heavily on established guidelines for surgical procedures, working in hospitals, and within the domain of medicine. In another example, Yep, Reece, and Negrón (2003) showed how "Asian American" culture and stigma influenced group communication in the HIV and/or AIDS support group interactions that they studied. In particular, the dominant Asian American culture in the support group was evidenced in talk that related to members' perceived acceptance of alternative treatments and to the decreased amount of negative emotions that they disclosed. These studies, thus, have pointed to how various cultural influences, including ethnicity, organizational context, and institutional domain, affect members' interaction within bona fide groups.

Depicting the interdependent and reciprocal nature of groups and their environments, scholars also have focused on how internal shifts in groups can influence external structural contexts, and vice versa. Parrish-Sprowl's (2003) study of how an emergent business group's microlevel actions played a role in Poland's macrolevel economic transformation from a "communist country with a command economy to a democracy with a market economy" (p. 293) explored the reciprocal nature of groups and their contexts. Parrish-Sprowl argued that Poland's political and economic reformation affected citizens in all areas of their lives. In particular, the forming of the Eco-S business could be understood as a cultural and an economic response to Poland's transformation, and, simultaneously, as constitutive of Poland's democratic and economic transformation.

With regard to groups' interwoven relationships with structures that define and constrain them, researchers have looked at how the virtual mediation of groups, whether via online communication systems (Alexander, Peterson, & Hollingshead, 2003; Krikorian & Kiyomiya, 2003) or through videoconferencing (Meier, 2003), influence group communication and members' connectivity. Mediated groups, thus, exemplify the interdependence between group identities and environments in which those groups operate, with Alexander et al. (2003) using the BFGP to analyze the recursive nature of communication and environment that was evidenced in online support groups, especially with regard to how internal and external communication were affected by being online and computer-mediated. Analyzing four Internet support groups, Alexander et al. noted that the online environment influenced members' perceptions of their identity and group interactions, particularly in explicit and implicit referencing of perceived online support for group members who did not engage in online conversations. Nonparticipating, and therefore, unknown, group members, or *lurkers*, were acknowledged in group interactions through unsolicited referrals and information that was provided for lurkers' benefit. The online context of the support groups influenced the content and role of talk (e.g., supportive or informative talk) between members, who assumed that the online format included a hidden audience of nonparticipating members observing intergroup interactions.

The BFGP principle of interdependence between bona fide groups and their contexts is relevant to the study of RBWG, given that this task group is embedded in the institutional context of city government; in the context of the funding organization, 100 Resilient Cities, that frames the particular task; and in the local political context of Boulder. The group's interdependence with those contexts affects, directly and indirectly, how members talk about others' (e.g., citizens') talk. Using the BFGP, the public organizational context of this case may

be visible through direct discussion of citizens' talk as indicative of current local politics or

indirect referencing of citizens' talk when discussing progress of the group's task. The public

institutional context of RBWG also is indicative of what Stohl and Putnam (1994) described as

"interlocked behaviors" (p. 287), in that the reciprocal relationship between task group

communication action and nongroup members solicited for contributions may function as

continued production and reproduction of group communicative behaviors in the RBWG.

      Given that bona fide groups are embedded within relevant contexts and are characterized

by stable yet permeable group boundaries, both of which affect interactions that occur within

bona fide groups, the BFGP offers a useful theoretical lens for framing the study of RBWG with

regard to how members talk about contributions that were solicited from others. However,

although researchers have described task groups that rely on solicited contributions from other

groups (e.g., Ancona, 1990; Barge & Keyton, 1994; Sunwolf, 2007), and they have referenced

social category groups in intergroup contexts (e.g., Alexander et al., 2003; Barge & Keyton,

1994; Eisenberg, Murphy, & Andrews, 1998; Tracy & Standerfer, 2003), no studies have

considered carefully the relationship between these two types of groups. This study, thus,

advances the study of bona fide groups by examining empirically that relationship.

      Additionally, this study constitutes a form of applied communication research. The

following section defines and explains applied communication research, and situates this study

within that research purpose.

Applied Communication Research

      In addition to its theoretical contributions to the BFGP, because this study focuses on an

important social issue—how a task group considers others' contributions in its deliberations—it

constitutes "applied research," and because it focuses group talk about others' contributions, it

constitutes "applied communication research." As Cissna (1982) explained:

> *Applied* research sets out to contribute to knowledge by answering a real, pragmatic,
>
> social question or by solving a real pragmatic, social problem. Applied *communication*
>
> research involves such a question or problem of human communication or examines
>
> human communication in order to provide an answer or solution to the question or
>
> problem. The intent or goal of the inquiry (as manifest in the research report itself) is the
>
> hallmark of applied communication research. Applied communication research involves
>
> the development of knowledge regarding a real human communication problem or
>
> question. (p. iv)

Applied communication research, thus, simultaneously, addresses pragmatic social problems and

contributes to building theoretical knowledge of human communication (Cissna, 1982).

Applied communication research began as a response to critical questioning of the social

relevance of the communication discipline during the 1969 New Orleans Conference on

Research and Instructional Development (see Kibler & Barker, 1969; see also Cissna, Eadie, &

Hickson, 2009; Kreps, Frey, & O'Hair, 1991). Communication scholars, subsequently, began to

apply their communication expertise and knowledge to relevant social problems, although,

initially, they were met with criticism by those who found such applied work to be detrimental to

the discipline's theoretical credibility (see, e.g., Ellis, 1982). Today, however, applied

communication is well regarded for its theoretical contributions to practice (see, e.g., Barge &

Craig, 2009; Frey & SunWolf, 2009).

Although all applied communication researchers seek to make a difference in people's

communicative practices, Frey and SunWolf (2009) argued that how researchers make that

difference exists on a continuum that ranges from researchers observing and offering

recommendations to researchers intervening. Applied communication researchers who observe

and offer recommendations for others to enact engage in "third-person-perspective research,"

whereas researchers who intervene to affect change engage in "first-person-perspective research"

(Frey & Carragee, 2007). As Frey (2009) explained, researchers who engage in third-person-

perspective research attempt to make a difference *from* their research, whereas researchers who

engage in first-person-perspective research seek to make a difference *through* their research.

This research study constitutes third-person-perspective applied communication research,

as the goal is to observe and understand how members of the RWBG talked about contributions

solicited from nongroup members, for the purpose of offering recommendations for engaging in

such talk that can be used by other task groups that solicit contributions. Communication

scholars have studied various ways to solicit others' contributions (e.g., Brabham, 2012;

Knobloch, Gastil, Reedy, & Cramer Walsh, 2013; O'Sullivan, 1995; Renz, 1992) and the design

of such solicitation (e.g., Dillard, 2013; McComas, 2003; Sprain & Boromisza-Habashi, 2013;

Sprain, Carcasson, & Merolla, 2014; Tracy, 2007), including solicitation methods, such as

deliberative forums (e.g., Knobloch et al., 2013) and participatory models for engaging groups

that include the use of online crowdsourcing in transit planning (Brabham, 2012). Scholars also

have studied implications of particular communication processes and practices in deliberating

groups, including grouping processes (Witteborn & Sprain, 2010) and storytelling (Black, 2008,

2009, 2013; Sprain & Hughes, 2015). From the perspective of those invited to contribute to

groups, applied communication scholars have studied normative communication strategies for

such contributions (e.g., Townsend, 2013; Tracy & Hughes, 2014). For instance, in a study of

how citizens ought to participate at state legislature hearings, Tracy and Hughes (2014) found

that dominant understandings of "good citizen discourse" were insufficient when providing

testimony in the public hearing context. Tracy and Hughes developed the notion of "democracy-

appealing partisanship," in which citizens advocated for one of four democratic values, including

majority rule, minority rights, religious freedom, and separation of church and state.

Despite the numerous examples of applied communication scholarship discussed in this

section in which researchers have offered recommendations for effective modes of solicitation of

contributions and means of contributing to those solicitations, no research has attempted to

understand how solicited contributions within the public context are discussed within task

groups. This applied communication study addresses that gap by seeking to provide

recommendations for effective communicative practices and processes that task group members

can enact as they make sense of contributions that they solicit. This applied communication

research, thus, responds to a practical social problem by employing a theoretical perspective to,

hopefully, offer recommendations that other task groups within public, private, and nonprofit

contexts may enact when discussing contributions offered by others who are external to the task

group.

Organization and Overview of Chapters

This dissertation is organized into five chapters, including this introductory chapter. To

understand more fully how this study makes a contribution to the scholarly communication

literature with respect to understanding how task groups talk about others' contributions, Chapter

2 reviews bodies of literature on information processing, intergroup relations, and jury

deliberation. Focusing on the research site and methods employed to study RBWG members'

talk about contributions from others, Chapter 3 provides background information about RBWG,

the City of Boulder, and the social and political contexts within which RBWG developed

Boulder's resilience strategy.

In Chapters 4 and 5, I introduce, analyze, and discuss the study's findings and

implications. My analysis of RBWG members' talk, organized by the group solicited for

contributions—specifically, the Boulder community, City of Boulder boards and commissions,

and City Council—is detailed in Chapter 4. Within this chapter, I discuss ways in which RBWG

members solicited contributions from groups outside of RBWG. An examination of implications

of RBWG members' talk about contributions then is presented in Chapter 5. In that chapter, I

discuss the three main findings of the study. In line with the BFGP and grounded in literatures

of information processing and group decision making, I offer, first, a discussion of theoretical

implications of task group members' discourse that insulates group members from others' talk,

even when permeability between the task group and external groups is mandated. Second, I

discuss the paradox of RBWG members' isolation from other groups' talk as they attempted to

enact resilience thinking, including theoretical implications of this discourse on understanding

resilience. Next, as an applied communication research study, I address practical implications of

the findings for understanding widespread efforts to engage resilience thinking in task groups in

local governance, but also at community, regional, and organizational levels. I also offer

recommendations for how city governments should make sense of contributions collected during

public engagement efforts. Finally, the chapter identifies limitations of the study and suggests

directions for future research.

CHAPTER 2

LITERATURE REVIEW

To understand how members of task groups talk about contributions that have been solicited from people representing other groups, this section focuses, first, on the importance of information processing to group work. Although scholars studying group information processing have treated groups as containers, that research provides a basis for understanding important consequences that can result for groups (e.g., faulty decision making) that accept or reject information from sources other than their members. Research then is reviewed about how group members perceive those who are viewed as being external to their group, as demonstrated in intergroup research, and how group members consider information obtained from those other people, as studied in scholarship on jury members' consideration of witnesses' testimony. These bodies of scholarship provide grounds for the importance of studying how task group members communicate about communication obtained from nongroup members.

Group Information Processing and Decision Making

Although group information-processing research, largely, has studied factors influencing group outcomes as fixed and stable, insights from that scholarship point to how characteristics of information and group processing of information affect group decision making (see, e.g., Bonito, 2007). These insights provide a foundation for the present study because of the common assumption that information processing occurs in all group decision making, and that it is consequential, directly or indirectly, to decisions made by groups (see, e.g., Hirokawa & Scheerhorn, 1986; Propp & Julian, 1994). The following discussion of group information-processing scholarship focuses on two aspects of the relationship between information and decision making: characteristics of information that are linked to making decisions in groups and

the extent to which groups examining information is indicative of effective or ineffective decisions made by them.

First, scholarship related to the influence of characteristics of information on group decision making begins with the tendency of groups to seek particular information to inform their tasks. For example, Brodbeck, Kerschreiter, Mojzisch, Frey, and Schulz-Hardt (2002) and Mojzisch and Schulz-Hardt (2006) found that information provided by group members often is preselected to align with members' preferences. According to Mojzisch and Schulz-Hardt, preference-consistent information is more likely to be introduced by group members as evidence for ideas that members believe or support; moreover, after a decision has been made, Mojzisch and Schulz-Hardt found that group members sought preference-consistent information to support their decisions and that they ignored inconsistent information. The biased selection of information can be problematic if groups draw on faulty, but preference-consistent, information to substantiate their decisions (e.g., Propp, 1997; Wittenbaum, Hubbell, & Zuckerman, 1999). As numerous scholars have argued, poor group decisions often are linked to group members' acceptance and reliance on flawed information (e.g., Gouran, 1982; Gouran & Hirokawa, 1986; Hirokawa & Scheerhorn, 1986; Janis, 1972). In the case of a task group soliciting contributions from others, problematic group processing of those contributions may result if only those that align with members' preferences and ideas are considered.

In addition to information collection, scholars have considered how types of information affect group outcomes, which include decision making but also innovation and members' participation in the group. In particular, scholars have studied how various information characteristics affect group decision making, including the quantity and commonality of information (Bonito, 2001), perceived appropriateness of information as linked to members'

disclosure of information (Bonito, DeCamp, & Ruppel, 2008; Wittenbaum et al., 1999), and

whether information is shared knowledge among members or unique information that is known

only by individual members (Stasser, 1999; Stasser & Davis, 1981, Stasser & Titus, 1985). In

particular, whether information is known or unknown prior to group discussion has been a focus

of more than 20 studies since Stasser and Titus's (1985) landmark research on how *hidden*

profiles, individuals' unique knowledge of information prior to group discussion, affect group

decisions (see also Stasser & Titus, 2003; Wittenbaum, Hollingshead, & Botero, 2004). For

instance, heavy reliance and preferences toward *shared information*, known by all group

members, resulted in suboptimal choices, in part, because when members prefer known over

unknown information, they fail to disclose unique information that could lead the group to make

better decisions (Bonito et al., 2008; Stasser & Titus, 2003). Although these studies focused on

information shared by group members rather than that contributed by nonmembers,

characteristics of information provided to groups point to how members' assumptions about

information influence how they talk about it and, in turn, how their talk about it affects the

quality of their group decisions.

Beyond information characteristics, scholars also have explored how group members'

processing of information is related to the quality of their group decision making. Propp and

Julian (1994) posited that, regardless of characteristics of information provided to groups,

members' purposeful processing of information contributes to positive group outcomes. In a

study of group members' communicative behaviors, Propp and Julian found that *verbal*

information probes, members' requests for further explanation about a claim using information,

led them to increased examination of information, and, subsequently, increased the quality of

their group decisions. Additionally, Janis (1972) noted the increased likelihood of faulty group

decision-making practices, such as *groupthink*—a problematic practice in which members'

desire for consensus suppresses dissent, including presentation of information and ideas that

might lead to disagreement—when members did not ask for explanations of available

information. A symptom of groupthink includes group members accepting and relying on

inaccurate information to make decisions.

      Not only is the acceptance of faulty information consequential to group decision making

but when the information base includes flawed information, future considerations of accurate

information also are affected negatively (Hirokawa & Scheerhorn, 1986; Janis & Mann, 1977).

According to Janis and Mann (1977), group members may become confused when future

accurate, yet conflicting, information is presented after flawed information was accepted;

subsequently, members' confusion can lead to suboptimal decisions. According to Hirokawa

and Scheerhorn (1986), the acceptance of flawed information is one of five problematic

behaviors found in groups; other practices include rejection of valid information, too little

information collected, too much information collected, and interpretation and use of information

in a flawed manner. Hirokawa and Scheerhorn, ultimately, suggested that group members can

address poor decision-making practices by engaging in interaction to examine information

carefully. In other words, members' social processing of information increases the likelihood of

better group decision making. This finding aligns with research that has shown group

communication processing of information correlates positively with quality of group decisions

(e.g., Gouran, 1982; Gouran & Hirokawa, 1986; Janis, 1972, Janis & Mann, 1977).

      In addition to group communication scholarship, information processing has been

examined with regard to how organizations process market information to create new products

(Moorman, 1995) and how jurors talk in jury deliberations about rules and premises of

communication (Sprain & Gastil, 2013). With regard to organizations, Moorman (1995)

highlighted information processing as a sensemaking process in which information is given

meaning, either through formal organizational procedures (e.g., through structured analysis or

playing devil's advocate) or informal processes (e.g., a nonstructured conversation about the

information). Both formal and informal organizational procedures for processing information

are based in group interaction (e.g., playing devil's advocate and discussion of information

necessitate interaction among organizational members). In relation to the present study,

Moorman's conception of information processing is useful, because it implies that collective

sensemaking of information is distinct from the group decision-making process.

Moorman's (1995) argument for understanding information processing as occurring in

organizational members' interactions is in line with Sprain and Gastil's (2012) findings from a

study of communication rules and premises used by jurors in their deliberations. Sprain and

Gastil argued that although jurors see themselves as processors of information during trials, their

face-to-face interactions are a foundational part of processing information that was presented

during trials. *Interaction*, as described by Sprain and Gastil, is the collective sharing and

examination of an individual's internal information processing, as represented in the "public

expression and interrogation of one's private suppositions, doubts, or even tentative conclusions"

(p. 166). Sprain and Gastil's brief discussion of the role of face-to-face interaction in jury

information processing, along with Moorman's work, have highlighted information processing as

constituted in group interaction. However, similar to other studies (discussed previously), Sprain

and Gastil did not study communication strategies that group members use when talking about

others' contributions. The present study, thus, addresses this gap in research about group

information processing.

As evidenced in group information-processing scholarship, group decisions are influenced by characteristics of information to which members are exposed, and those decisions are a result of group processing of that information. These insights are important to this study of task group members' talk about nonmembers' contributions, because task groups are not contained entities but, instead, are situated within a variety of contexts that obligate groups to solicit information from nonmembers. Additionally, even if task groups do not solicit information actively from outside of the group, the inherent permeability of groups increases the likelihood that external information will be presented to members and incorporated into their group decision-making processes and practices. The next section draws on jury and intergroup scholarship to understand how group members perceive information obtained from others, and it discusses, specifically, perceptions of nongroup members and their contributions.

Perception of Nongroup Members and Their Contributions

Despite a lack of scholarship about how task group members talk about others' contributions, studies of intergroup relations—specifically, those that focus on relations between "ingroups" and "outgroups"—and juries have suggested that task group members often consider information from others to inform their work. According to Ostrom, Fan, Carpenter, and Sedikides (1993), *ingroups* describe group members' perceptions of others as being similar to how members view themselves, whereas *outgroups* describes group members' perceptions of others as being different from how they view themselves. That scholarship has pointed to how nonmembers' contributions are perceived and treated by task group members; that is, ingroup members' perceptions of those nonmembers. Jury literature also has suggested that perceptions of nongroup members are related to how information that they provide is evaluated by jurors.

These two bodies of scholarship, reviewed below, thus, provide insights into how nonmembers may be perceived by task group members.

      Intergroup Research. First, research has explored group members' use of categories to characterize others who are not part of their group (e.g., Harasty, 1997; Ostrom et al., 1993; Sedikides, 1997). In particular, outgroup members are characterized as a group rather than as individuals, and ingroup members' comments about an outgroup tend to be more negative than positive (Harasty, 1997). Ostrom et al. (1993) found that although groups discussed information about ingroups and outgroups at the same rate, when ingroup members recalled information about others in the ingroup, it was attributed to individuals (e.g., Sally plays the violin), but when ingroup members recalled information about outgroup individuals, it was categorized according to general characteristics about the group (e.g., males as engineers or females as teachers). Ostrom et al. labeled this tendency the "differential processing hypothesis."

      Testing Ostrom et al.'s (1993) differential processing hypothesis under varying conditions of relative group status, Sedikides (1997) confirmed it when ingroup members were of higher status than outgroup members, but the findings were reversed when lower status members comprised the ingroup, as outgroup members' information was individuated rather than categorized by stereotypes or generalizations. Sedikides's findings, thus, showed that relative status is an important factor in how information from outgroup members is perceived and processed by ingroup members. The findings indicated that ingroup members who perceive themselves as being more powerful than outgroup members, typically, referred to those outgroup members in broad, categorical terms, making statements about all members of the outgroup (e.g., students are lazy) rather than describing characteristics of an individual outgroup member (e.g., Matthew is lazy). Therefore, how task group members characterize others who are not members

of the group (e.g., as individuals or as a group) is related to how they perceive the status of those

nonmembers.

When group members view others as legitimate and credible, as indicated in Sundby's

(1997) research, those perceptions are extended to those others' contributions. Inversely,

negative ingroup stereotyping of an outgroup can lead to delegitimization and mistrust of that

outgroup (see, e.g., Bar-Tal, 1990; Bar-Tal & Hammock, 2012; Oren & Bar-Tal, 2007). The

process of o*thering*, which "identifies those that are thought to be different from oneself or the

mainstream, . . . [which] can reinforce and reproduce positions of domination and subordination"

(Johnson et al., 2009, p. 244), demonstrates how perceptions of others invoke stereotypes and

reproduce institutional and oppressive systems of power that position one group over another.

Othering practices of applying negative stereotypes to outgroups lead to *delegitimization*

of those outgroups, the "categorization of a group or groups into extremely negative social

categories that are excluded from the realm of acceptable norms and/or values" (Bar-Tal, 1990,

p. 65). For example, Johnson et al. (2009) found that in focus groups, healthcare workers

"othered" and invoked negative stereotypes about South Asian female patients, othering them

through essentialist, culturalist, and racialized explanations of South Asian female patients'

health status. These explanations placed blame on patients for healthcare issues that they faced,

rather than on extenuating circumstances, such as the environment, family history, or bad luck.

Focus group studies also have found that characteristics, such as race and ethnicity (Greenwood,

Ellmers, & Holley, 2014; Johnson et al.; Petros, Airhihenbuwa, Simbayi, Ramlagan, & Brown,

2006), class (Lünenborg & Fürsich, 2014) and sexuality (Petros et al., 2006; Rothmann &

Simmonds, 2015) can lead to the othering of outgroups. As noted by Harasty (1997), within

group discussion, outside groups are represented stereotypically, and, most commonly, via

negative connotations. Typically, when ingroup members attribute negative stereotypes to

outgroups, those outgroups have a higher likelihood of experiencing delegitimization, which, as

indicated in Sundby's (1997) jury study, extends to contributions offered by those outgroup

members.

In extreme conflict situations between groups, outgroup stereotypes can be consequential

to how information from that outgroup is perceived; those consequences include ingroup bias,

outgroup hostility, and viewing of outgroup members as lower status individuals, all of which

promote delegitimization of the outgroup (Bar-Tal & Hammack, 2012). Although an extreme

example of delegitimization, Bar-Tal (1990) described the categorization of German Jewish

citizens as deviant and distrustful by other German citizens in Hitler-led Germany. In another

intergroup conflict study, Oren and Bar-Tal (2007) identified negative stereotypes that were held

by Israelis and Palestinians of each another as mutual delegitimization that led, consequentially,

to a "stalemate of the peace process" (p. 112). Although that case represents a historical and

violent conflict between the two groups over a period of 100 years, it demonstrated how

outgroup stereotypes can influence how information from an outgroup may be challenged, or

even delegitimized, by an ingroup.

Overall, research on intergroup relations has found that nongroup members are perceived

in generic, and often negative, terms. Additionally, research on groups in conflict has suggested

that ingroup members' stereotypes of outgroups can lead to delegitimizing and mistrusting them.

Similarly, research has suggested that task group members' talk about others' talk has a high

probability of aligning with members' stereotypes about those others. Applying that research to

the present study, task group members' talk may involve attributing characteristics to others as a

collective body rather than as individuals. Furthermore, stereotypes about outgroups invoked in

task group members' talk, likely, will be negative and, potentially, lead to delegitimization of those outgroups. Research, therefore, suggests that if outgroups are othered by Resilient Boulder Working Group (RBWG) members, outgroup members' contributions may be subject to stereotypes of those outgroups and face delegitimization.

      Jury research. Mirroring research on ingroups and outgroups, jury task groups make judgments about nongroup members and their contributions. This section discusses scholarship on juries that offers a useful foundation to this study, including jury deliberation research findings that reveal how perceptions of groups align with how contributions from members of those groups are perceived. Jury research is useful for understanding the type of task group studied in the present research, because juries solicit contributions, as mandated by the court, from those who are not part of those juries. Testimony from witnesses, for example, informs how jurors deliberate and reach verdicts.

      Although studied from the perspective of law scholars and professionals, Sundby (1997) provided a rare analysis of jury members' accounts of how they perceived witnesses and made sense of their testimony in jury deliberation. Sundby analyzed interviews conducted with jurors who reflected on their considerations of testimony in capital trial cases after the case had concluded. The findings showed that jurors had different reactions to witnesses' information based on their perception of witnesses' relationship to the trial as expert witnesses, lay witnesses, or as friends and family members of defendants. Jurors' characterizations of expert and lay witnesses affected how information provided by those sources was perceived by jurors; specifically, lay witness contributions were valued because jurors believed that they did not have anything to gain by providing testimony. Lay witnesses were seen as more legitimate than were expert witnesses because of the former's experiences with defendants or familiarity with

situations similar to defendants' upbringing and circumstances. In comparison, expert witnesses were viewed as "hired guns" who were not in touch with the real world. Experts were characterized as inauthentic because they were paid to participate in the trials, whereas lay witnesses were unpaid and, therefore, deemed to be trustworthy. Of all of the types of witnesses providing testimony, jurors viewed friends and family to be the most authentic, a characteristic that also was attributed to information provided by those witnesses. Sundby's findings, thus, showed how the perceived status of others who were not part of a jury affected the perceived legitimacy of information provided by those external to the group.

Sundby's (1997) findings revealed how the perceived status of others who contributed information affected whether those contributions were perceived as legitimate. Although expert witnesses' qualifications made them "experts," jurors in Sundby's study evaluated their contributions based on additional factors beyond those qualifications. Henningsen and Henningsen's (2015) study of the relative influence of communication expressiveness of group members during group decision making also found that other factors have more influence than did formal expertise, with the amount of contributions made by the most communicative member being more influential on group decisions than were contributions made by the most expert group member. Studies also have shown the contested nature of expertise within and between groups that include public institutions and citizens (Bucchi, 2009; Collins & Evans, 2002; Fischer, 2000; Sprain et al., 2014). Adopting a *communication as design* approach, which positions designs of communication as theoretical inquiries into how communication functions and how it should function (Aakhus, 2007), Sprain et al. (2014), for example, investigated the use of experts in small group deliberation, focusing, specifically, on *invited experts*, individuals with background information that is useful for group deliberation, as opposed to relative

expertise between group members, in which individuals position themselves as experts with specialized knowledge or experience. Despite the established nature of invited experts, Sprain et al.'s findings indicated that even those individuals with established expertise engage in the negotiation of relative expertise in groups. As a result, Sprain et al. proposed guidelines for inclusion of expert knowledge in public deliberation that could be implemented to mitigate those behaviors (e.g., invited experts included only when members engage in extended disagreement or to answer fundamental questions).

Researchers also have studied how individual jurors formulate arguments in jury deliberation based on how they processed information that was presented during trials (e.g., Davis, 2008; Meyers, Seibold, & Kang, 2010; Sunwolf, 2007). In particular, jurors attempt to make sense of others' (e.g., defendants') behaviors with respect to jurors' experiences and their conception of normative social actions. Sunwolf's (2007) findings from a study of jury deliberations recorded as part of four criminal trials described how individual jurors used a distinct set of strategies to make sense of defendants' actions: (a) situating a defendant's actions within real-world events about which the juror had knowledge, (b) hypothesizing how she or he would have behaved if placed in the defendant's position, (c) considering potential attributes and causes of a defendant's actions, and (d) developing and employing a script of what she or he believed is normal behavior in the situation that was presented in the case trial. Jurors, thus, relied on situations that they knew already, to create a grid for mapping typical and deviant behaviors, which becomes a useful tool when arguing for a particular outcome. In the strategies that Sunwolf observed, jurors drew on arguments based in personal experiences to determine if information provided about defendants' behavior should be characterized as "deviant."

Similar findings were reported in a study conducted by Meyers et al. (2010) that considered argument structures used in a naturally occurring jury deliberation of defendant sentencing. Studying a publicly broadcast jury deliberation, Meyers et al. found that jurors used argument strategies that were drawn from their personal experiences to analyze evidence presented during the trial. Those strategies, stemming from personal experiences and values, led to fragmentation in the jury studied, because jurors did not share a collective roadmap of how to process or make sense of contributions that were provided by others during the trial. Taking a structurational approach to jury decision making, in which individuals draw from and maintain implicit social norms and rational guidelines when interacting with others, these scholars argued that jury interactions reproduced models of communication with which jurors already were familiar, and that those models constrained the processing of evidence (e.g., by jurors developing individual rather than collective arguments) in ways that led to deliberation.

Meyers et al.'s (2010) research is insightful in differentiating communicative practices in jury task groups from individuals' means of making sense of contributions, or evidence. The study also fleshed out Sunwolf and Seibold's (1998) finding that jurors invoked communication rules in jury deliberation that drew from their personal experiences (e.g., in selecting a formal leader, they drew on other social institutions in which they were members to suggest selection techniques), rather than from expertise in the collective processing of others' contributions. As a result, Sunwolf and Seibold found that the jury studied faced numerous challenges throughout the deliberation process. That research, thus, has identified inconsistencies and challenges faced by task groups that stem, potentially, from a lack of understanding how to process effectively others' contributions. Admittedly, these studies focused on the act of deliberating rather than communicative practices employed as group members process contributions, but attention should

be focused on how members process contributions, because those processes are foundational to

subsequent group decision making. Meyers et al.'s findings, thus, point to the need for a better

understanding of how groups establish effectively procedures for processing others'

contributions, not only in the case of juries, in which individual members have minimal

similarities in experiences and lack expertise, but also in task groups that face similar challenges.

Finally, jury scholarship has suggested that groups may respond to others' contributions

by resisting the information provided (Spinal, 1984; Sundby, 1997). Group resistance strategies

to considering information include silence, monopolizing, externalization, devaluation of the

leader, devaluation of the group, avoidance collusion, distractions, and changing the subject

(Spinal, 1984). Sundby (1997), for instance, found that juries dismiss testimony if the legitimacy

of witnesses is called into question, such that juries "tune the expert out" (p. 1140) if that

person's testimony is not corroborated by other evidence or by the testimony of other credible

witnesses. Based on the research discussed thus far, task group members' talk about external

others' contributions might stem from members' personal experiences with nonmembers or from

members' normative perceptions of how nonmembers should talk about issues that are relevant

to the task group. Spinal (1984) and Sundby suggested the possibility that resistance to others'

contributions may take many forms, including avoidance of task group talk about those

contributions and dismissing others' contributions as illegitimate.

Conclusion. The research on intergroup relations and juries that was discussed in this

section provide insights for understanding how task group members may talk about contributions

provided by nonmembers, including the consequential nature of members' perceptions of others

on perceptions of contributions from those others, strategies that members may use that signal

individual processing of information, and resistance strategies that groups may use to avoid

processing information. Missing from that literature, however, is an examination of collective

group member processing of others' contributions, such as members' talk that marks others'

contributions as credible or incredible, or as legitimate or illegitimate. Scholars, consequently,

should pay attention to the collective processing of others' contributions, as evidenced in group

members' talk that seeks to make sense of communication provided by nonmembers.

Additionally, strategies employed in group members' talk are important because they form the

foundation of subsequent group decision making. Furthermore, research findings have shown

that members of juries struggle with how to process evidence collectively (Meyers et al., 2010;

Sunwolf & Seibold, 1997), which points to the need for research-based recommendations to help

task group members to process others' contributions effectively, particularly in circumstances

where they rely on such contributions. Although the research that was reviewed provided

evidence that groups negotiate collectively others' contributions, it did not study how groups

discussed those contributions per se; instead, scholars examined decision-making processes

through post-trial individual reflections (Sundby, 2007; Sunwolf & Seibold, 1997) or through

individual sensemaking strategies that were used to develop arguments in jury deliberations

(Meyers et al., 2010; Sunwolf, 2007).

  This study examines how task group members process collectively contributions that are

solicited from nonmembers. Although research has considered how jurors perceive and analyze

information obtained from those who testify, how ingroup members perceive outgroup members

who offer information, and how groups might avoid, altogether, the processing of information,

there are no studies of group members, within the context of their tasks, talking about and

making sense collectively of others' contributions. To study the collective processing of others'

talk, this study analyzed task group communication processes and practices, and their

consequences on group tasks, through the case study of RBWG. This study, thus, focused on

how RBWG members talk about contributions solicited from others, with Chapter 3 explaining

the methods that were used to conduct this study.

CHAPTER 3

METHODS

This chapter explains the research site and methods that were employed to study it. The first section offers background information about the city of Boulder, Colorado (hereafter, Boulder); the resilience project that Boulder undertook, and features of the Resilient Boulder Working Group, including its membership, meeting structure, and activities that require group processing of contributions solicited from others. I then explain procedures that were used to collect and analyze Resilient Boulder Working Group meeting data; specifically, episodes of group talk that discussed others' contributions. Finally, I explicate a qualitative coding approach that was employed to analyze the data collected, as structured by the research questions posed.

Background and Site

Boulder, Colorado

Nestled in the Foothills of the Rocky Mountains, Boulder, Colorado was established in the 19th century as settlers moved west to harvest minerals (Boulder History Museum, 2014). Today, Boulder is known as a site for innovation and home to a robust scientific and technological industry (Helm, 2013–2014). The city ranks second on a list of the 200 most-educated U.S. cities (Pentis & Wessell, 2016), and it is the site of the University of Colorado Boulder and Naropa University, as well as the National Center for Atmospheric Research, National Oceanic and Atmospheric Administration, and many other corporations and organizations across a variety of industries (Boulder Economic Council, 2016).

Boulder's geographic location attracts tourism and residential growth, and, historically, residents have attempted to preserve Boulder's distinct geography through citizens' votes to limit development in the Foothills, fund open space through increased taxes, and limit overall

development to two percent (Boulder History Museum, 2014). Key city government initiatives

in recent years have focused on environmental sustainability, including carbon reduction and

municipalization of electric utility; regional land use planning strategy, including an update to

the Boulder Valley Comprehensive Plan; and confronting the state of limited affordable housing

in the city (e.g., the median single-family home in Boulder costs $1,067,213; Castle, 2015). City

staff implements municipal initiatives and projects, and Boulder's elected City Council provides

oversight and guidance of those projects. Led and supervised by the city manager, city staffers

present all major initiatives and projects to Council officials for feedback and approval.

Boulder Flood

Prior to, but especially following, 8 days of a "1,000-year rain" and a "100-year flood"

(Brennan & Aguilar, 2013) that occurred in September 2013, which caused significant damage

(e.g., $49,000,00 to city infrastructure, parks, and open spaces; and more than $176,000,000

estimated out-of-pocket expenses to private property owners and residents; see, e.g., City of

Boulder, 2014b; Rubino, 2013), Boulder, increasingly, became aware of its significant climate

change vulnerabilities, including wildfire, drought, rising temperatures, widespread tree pest

infestation, flooding, and mudslides. However, responding to these concerns required a change

in how climate-related issues, traditionally, were understood. Although Boulder had projects in

place to respond to climate issues, the city government recognized that "the way [that it was]

framing these issues wasn't complete," according to Brett KenCairn, a senior environmental

planner (quoted in Gallucci, 2013, p. 2).

100 Resilient Cities Grant

Seeking a holistic approach to mitigate climate issues facing the city and to connect

ongoing municipal projects that addressed the city's climate change vulnerabilities through

preparedness and innovation (Gallucci, 2013), Boulder applied for a 100 Resilient Cities

(100RC; http://www.100resilientcities.org) grant from The Rockefeller Foundation (2016),

which is "dedicated to a single mission: promoting the well-being of humanity throughout the

world" (para. 1). This grant supports building urban *resilience*, which, according to Rockefeller

Foundation President Judith Rodin (2014), is the "capacity of any entity—an individual, a

community, an organism, or a natural system—to prepare for disruptions, to recover from shocks

and stresses, and to adapt and grow from disruptive experience" (p. 3).[1] Urban resilience is

accomplished through the adoption of the 100RC's (2017) *City Resilience Framework*, which

"provides a lens to understand the complexity of cities and the drivers that contribute to their

resilience, and a common language that enables cities to share knowledge and experiences"

(para. 1).

In December 2013, Boulder was announced as a recipient of a 100RC grant. In addition

to receiving $1,000,000 in funding for a municipal position that focused on resilience, the grant

included technical support for the development of a resilience strategy, access to a marketplace

of services that help cities to achieve resilience goals, and membership to the 100RC network of

selected cities. Grant monies stipulate that selected city governments adopt the 100RC approach

and hire a grant-funded resilience municipal staff member—a chief resilience officer (CRO). As

mandated by the 100RC approach, the CRO leads cities through three key phases that result,

ultimately, in the adoption of a city resilience strategy: identification of resilience gaps and

opportunities (phase 1), development of a resilience strategy (phase 2), and implementation of

the strategy (phase 3). The adoption of the 100RC approach demarcates selected cities as

"resilient cities," with each local effort taking on the moniker of "resilient." In Boulder, the

100RC approach, led by the CRO, is referred to as "Resilient Boulder" (see

https://bouldercolorado.gov/resilience).

The 100RC approach also requires that cities complete a series of activities associated

with each phase. Although CROs are the 100RC-designated leaders of local resilient efforts,

100RC guidelines mandate that CROs create working groups, comprised of municipal city staff,

to complete day-to-day activities of mandated tasks (100RC, 2015). The 100RC approach

monitors required activities conducted by CROs and working teams through incremental review

processes at the end of each phase; if a local resilient effort does not complete grant-required

activities, access to additional resources may be denied. Required activities include formation of

teams and committees, execution of 100RC proprietary tools, inventories of current activities and

opportunities, and creation of plans and reports that lead to a city resilience strategy.

100RC (2015) also mandates, as part of completion of required activities, that working

groups engage *stakeholders*, "individuals or groups within and outside of city government with

the influence or capacity to build resilience" (p. 22). 100RC activities (e.g., the City Resilience

Perceptions Assessment, in which working groups gather local community members'

perceptions about resilience, and the Risk Assessment and Asset Scan, which assess major

shocks, stresses, and current risks) require soliciting contributions from stakeholders, including

their definitions, experiences, perceptions, and understandings of current risks facing Boulder.

Additional activities (e.g., Focus Area Development, Phase II Scope of Work, and City

Resilience Strategy) include consideration of solicited information and talk from stakeholders, as

part of the local working group's decision making.

Boulder's Political Climate

In the year following Boulder's designation by 100RC as a resilient city, tensions mounted between Boulder residents and municipal staff regarding transparency in local governance and consideration of citizens' input on municipal projects—specifically, in relation to growth and development, housing, and transportation. In late 2014, issues related to growth and development sparked heated community discussion when the Boulder Planning Board approved and City Council consented to Google's petition to add 1,160 jobs and to create an office park in the city (Burness, 2014). Citizens' negative reactions to the Google development were expressed in editorials written by residents in Boulder's local newspaper, the *Daily Camera* (Brautigam, 2015; Meltzer, 2014; for community reactions, see Draper, 2014; Krieger, 2014; Maher, 2015; May, 2014; Schneider, 2014; Waddell, 2014), and in emails that were sent to city staffers.

At the beginning of 2014, residents rated the City of Boulder's (2014a) performance on "Gathering feedback from residents on new policies and projects; conducting public processes" (p. 31), with a score of 61 on a 100-point scale (with 0 representing "very poorly" and 100 representing "very well"). However, by the end of 2014, residents began to suspect systemic misconduct and claimed that city staffers had held secret meetings with local developers (Brautigam, 2015; Pomerance, 2015). Responding to these accusations, Jane Brautigam (2015), Boulder's City Manager, published an editorial in the *Daily Camera* defending the staffer meetings in question as a common business practice, and she introduced plans for "putting in place a number of new tools and work efforts to support inclusive, respectful and meaningful conversations in 2015, and beyond" (para. 7). Plans mentioned included Boulder's partnership with Code for America (n.d.)—a nonprofit organization that "organize[s] a network of people

who build technology to further local governments' practices of creating healthy, prosperous, and safe communities" (para. 1)—to engage, through use of online tools and programs, vulnerable resident populations.

Community conversations regarding growth, development, transportation, and housing continued in 2015, with regard to various municipal planning initiatives (e.g., Boulder Valley Comprehensive Plan and Housing Boulder; see https://bouldercolorado.gov/bvcp). In July 2015, accusations of misconduct in governance resurfaced when a contractor/consultant for Boulder, Becky Boone, gave a public presentation that insinuated her personal stance on Boulder's growth policies. The speech drew the attention of the Boulder community because of the integral nature of the contractor/consultant's work in the Code for America public engagement project that was touted by city officials as an exemplar of Boulder's efforts to engage disenfranchised community members in issues of local governance. As a result, Code for America and Boulder came under fire when Boulder Neighbors, a local activist group, shared the speech on its blog, which led to a *Daily Camera* article about the speech (Burness, 2015; Meltzer, 2015a, 2015b). Boone's speech attempted to persuade citizens to engage in Boulder's housing and development conversations, and it employed profanity to do so. It later was revealed that a city staffer had reviewed her speech before she presented it, implicating Boulder beyond Boone's association with city government as a contractor/consultant. The language used in the speech and the negative positioning of policies restricting growth resulted in backlash and continued mistrust of Boulder's public engagement efforts by local residents desiring to maintain current planning policies (Meltzer, 2015b).

Resilient Boulder Working Group

In the midst of political tensions within the Boulder community regarding issues related to growth, Boulder, following 100RC guidelines, hired a CRO in September 2014. In November 2014, the CRO convened the Resilient Boulder Working Group (RBWG) to assist in activities outlined by the 100RC approach.

The RBWG is comprised of approximately 20 Boulder staff members from departments that are deemed relevant to the resilience strategy, including communications, disaster recovery, economic vitality, emergency services, energy and climate planning, finance, human services, information technology, neighborhood outreach, parks and recreation, regional land use planning, transportation, and utilities. RBWG's objectives were outlined in one of the first 100RC required activities—the Stakeholder Engagement Plan:

> Contribute to, review, and refine work plan for the strategy; Collect and document information needed to develop an effective, actionable resilience strategy; Assist the CRO to review and contribute to interim 100RC deliverables; Identify and help pursue additional funding and technical assistance resources; Liaise with other internal and external stakeholders; Provide quantitative and qualitative data to support development and implementation of the resilience strategy; Suggest and advise on innovative community engagement methods and best ways to coordinate with other city initiatives; and, ultimately, Produce and support implementation of a resilience strategy. (Resilient Boulder, 2015, p. 6)

The RBWG convenes on a monthly basis, although the group meets more or less frequently depending on subgroup meetings that take place, in addition to full RBWG membership meetings. RBWG meetings are held in conference rooms that are located in

buildings in the downtown Boulder municipal campus. In-person meetings are held, with the

occasional teleconference option for remote group members. Meeting agendas are sent the day

prior to a RBWG meeting; however, typically, relevant information, such as input solicited from

others, is shared within the meeting rather than in report form prior to the group convening. In

addition to RBWG meetings, members attend activities outside of meetings (e.g., City Council

presentations and events soliciting stakeholders' talk).

Contributions Solicited by Public Administration Task Groups

As indicated in the group's objectives, the RBWG assists the CRO in the production of

Boulder's resilience strategy. Such work involves identifying, collecting, providing, and

processing critical information from outside the RBWG to inform an "effective, actionable

resilience strategy" (Resilient Boulder, 2015, p. 6). Included in this work, in line with 100RC

activity mandates, described previously, is the solicitation of stakeholders' definitions,

experiences, perceptions, and meanings of issues that are relevant to the resilience strategy. To

satisfy requirements of 100RC activities and as part of the group's developed focus area projects,

RBWG solicited contributions from others to inform its work, in the forms of survey

questionnaires, workshops, forums, and open comment periods, during the course of the 2-year

100RC grant.

According to public administration literature (e.g., Bingham, Nabatchi, & O'Leary, 2005;

Bryson, Quick, Slotterback, & Crosby, 2012; Nabatchi, 2010, 2012; Neshkova & Guo, 2012;

Salamon, 2002), to achieve their practical goals, government administrators, such as RBWG

members, often solicit contributions from groups that are external to the task group. Despite

focusing largely on processes that structure citizens' contributions (e.g., engagement and

participation of citizens), public administration scholarship (e.g., Bingham et al., 2005; Bryson et

al., 2012; Nabatchi & Amsler, 2014) has provided evidence that various types of contributions

can result from solicitation processes. Specifically, conceptual processes of "public

participation" (Bryson et al., 2012) and "public engagement" (Nabatchi & Amsler, 2014) reveal

that municipal groups engage in various processes to solicit contributions from nongovernmental

groups that result in various types of contributions from those groups.[2] First, *public*

participation encompasses any inclusion of external groups in municipal projects, including the

collection and dissemination of information and diverse demographic perspectives, engagement

in problem solving or policy creation, or to gain support and acceptance for policy decisions

(Bryson et al., 2012). Similarly, Nabatchi and Amsler (2014) described *public engagemen*t as

"an umbrella term that encompasses numerous methods for bringing people together to address

issues of public importance" (p. 63S).[3] According to Nabatchi and Amsler, public engagement is

inclusive of both *direct public* engagement, which includes processes that ask citizens to

"personally and actively [exercise] voice such that their ideas, concerns, needs, interests, and

values are incorporated into governmental decision making" (p. 65S), and *indirect public*

engagement, which includes processes in which citizens' voices are represented through voting

or advocacy groups (Nabatchi, 2012; Nabatchi & Amsler).

　　　Of the solicitations made by RBWG members, external groups' contributions were

requested via (a) an online survey questionnaire of community members' perceptions of

resilience; (b) a community risk assessment workshop that included members of the scientific

community; (c) a random survey of residents, via questionnaire, regarding the comprehensive

plan focus area; (d) a public forum on Resilient Boulder that invited community members to

provide feedback on resilience issues; (e) an online public comment period on the April 2016

draft of the city resilience strategy, and comment cards collected at a corresponding public event;

(f) in-person requests for feedback to the city resilience strategy at 15 meetings of boards and

commissions; and (g) three working group presentations and feedback sessions that were held

with the Boulder City Council.

        The majority of solicitation processes used by RBWG members fall under the category of

direct public engagement, with the exception of the community risk workshop with the scientific

community, which engaged a representative group of local scientists to represent the community

assessment of risks, and, thus, constituted indirect public engagement. The distinction between

these forms of public engagement, and activities within those forms, points to the variety of

contributions that can result from solicitation processes conducted by RBWG. In particular,

contributions resulting from the direct public engagement processes of public meetings,

participatory dialogues, survey questionnaires, and online activities include a variety of forms.

Additionally, resulting contributions from those processes may influence how governmental task

group members talk about contributions from those groups. For example, citizens' deliberations

recorded during a public dialogue differs greatly from contributions solicited through survey

questionnaires or provided through interactive mobile applications, such as wiki-planning (see

www.wikiplanning.org; Nabatchi, 2012; Organisation for Economic Co-operation and

Development [OECD], 2009). Each set of contributions has fundamental characteristic

differences; whereas contributions from public dialogues may result in identification of values

for community members attending the event, a survey questionnaire may represent statistically

public opinion, or views that are generalizable across local citizen groups. On the other hand,

the openness of an online wiki application could result in "tagging, ranking, [and] data

visualization" (OECD, p. 67) from a small number of individuals.

Given that this study explored how task group members' talk about nonmembers' talk, I focused, specifically, on RBWG meetings that discussed, as part of the group's mandated tasks, nonmembers and their contributions (including talk captured at workshops and events, as well as survey questionnaire responses). After solicited responses were collected, RBWG members discussed them in relation to inclusion in specific 100RC activity deliverables or with respect to informing development of policies that are included in 100RC-mandated activities. The next section discusses procedures employed to observe, record, and analyze RBWG members' talk about others' contributions.

Procedures

This study employed qualitative methods to investigate RBWG meetings from the bona fide group perspective (BFGP). According to Stohl and Putnam (2003), the BFGP is inclusive of various methodologies that capture group interaction, especially with regard to how that interaction demonstrates group boundary permeability and context interdependence. This study, similar to other BFGP studies (e.g., Eisenberg et al., 1998; Oetzel & Robbins, 2003; Tracy & Standerfer, 2003), thus, focused on talk within the context of group meetings. Specifically, this study followed those studies methodologically by using participant observation and by analyzing transcripts of group talk. Tracy and Standerfer (2003) argued that the study of group talk reveals a group's dynamics and its embeddedness in contexts, as well as allows researchers to study "both what the talk is doing and how that talk is creating 'facts' and information" (p. 113). This study sought, specifically, to understand how members of this task group talked about nonmembers' talk, and effects that such talk had on how group members construct "facts and information," using Tracy and Standerfer's (2003) terminology, about nonmembers' talk.

Below, I discuss my role as a researcher in the RBWG meetings and procedures employed to capture RBWG members' talk about nonmembers' contributions.

Participant Observation

My role in the RBWG meetings was as a *participant observer*, which Lindlof and Taylor (2011) described as the "craft of experiencing and recording events in social settings" (p. 135). Participant observation accounts for researchers' presence and witnessing of activities as derived from an "intimate curiosity" (Lindlof & Taylor, p. 135) about participants and their actions, beliefs, values, and relationships that are embedded in those activities. I used participant–observation methodology to study RBWG, crafting fieldnotes and capturing group talk through audio recordings. I chose participant observation because, although I did not have a formal role in RBWG, I was asked to introduce myself at each of its meetings. My introduction as a researcher from the University of Colorado Boulder (CU-Boulder), although intended as information, led group members to invite me to contribute to their discussions by answering questions related to the university or to my research. Additionally, after meetings, routinely, the CRO asked for my thoughts and opinions about outcomes of the observed meeting. In each of these situations, my identity as a researcher was foregrounded, and although I was not considered to be a group member, members' acknowledgment of my presence and my embodied observation of the meetings positioned me within the participant–observer role.

Over the course of Resilient Boulder's 100RC grant-funding period, I observed RBWG during its monthly meetings, as well as observed subgroups that met to discuss specific tasks that are associated with the 100RC approach. RBWG subgroups are task-specific groups that complete a specific 100RC-mandated task that is deemed to be too specific for a general RBWG meeting. For example, subgroup tasks included focus area project development, such as

integration of resilience into a regional comprehensive plan and consideration of a city economic

resilience assessment, as well as final review of reports required by 100RC to monitor RBWG

activities.

Stohl and Putnam (2003) pointed out that group interaction that is both internal and

external to formal gathering of groups is evidential of a group's dynamics and activities. I

focused, primarily, on interactions that occurred in formal gathering of the RBWG. Specifically,

I observed 14 RBWG meetings and 11 subgroup meetings that included the CRO and various

other RBWG members. Attendance of RBWG members at the subgroup meetings varied, but it

always included the CRO's attendance. In total, I logged more than 180 hours of observation of

Resilient Boulder.

My observation of the RBWG included other events outside of group meetings, such as

shadowing and conducting quarterly interviews with the CRO, and observing meetings that

included the CRO in roles outside of the RBWG. Over the course of my observations of RBWG,

I collected data associated with Boulder's inclusion in the 100RC Network (e.g., interviews

conducted with 100RC staff, observation of 100RC staff at the 2015 Natural Hazards

Conference, and review of 100RC organizational texts). My observations and data collected

beyond RBWG meetings provided insights into environments within which RBWG is

embedded—particularly, the contexts of Boulder and the 100RC. Additionally, my interviews

with and observations of the CRO provided background information that was useful in analyzing

RBWG members' talk during formal group meeting times.

Observing the Resilient Boulder Working Group

Attending RBWG meetings allowed me access to the group's tasks and informed my

understanding of Resilient Boulder's operationalization of the 100RC approach, including the

group's relevant tasks and methods of soliciting others' contributions. During observation (post November 2015), in line with purposes of this study, I took notes of instances that included group talk about others' contributions; after meetings, I returned to those notes to identify episodes that featured talk about others' contributions. These audio episodes then were transcribed and analyzed.

I documented my observations in raw fieldnotes during RBWG meetings. Beginning in November 2015, I began paying specific attention to group tasks that sought input from others as part of the group's work. I made specific note of times that the group discussed nonmembers, and, particularly, when the group processed contributions from others, attached value to solicited others' discourse, and categorized those contributions in relation to the group's task (e.g., as relevant or irrelevant). Observations supplemented RBWG members' talk about others' contributions; however, the study focused on understanding communicative practices and processes enacted by the RBWG; consequently, I focused solely on group members' talk within RBWG meetings. All of the RBWG meetings were audiorecorded, and I was invited to record six subgroup meetings. The primary texts of the study, thus, are transcripts of RBWG and subgroup meetings.

The practice of audio recording RBWG meetings occurred following RBWG member introductions at the beginning of each meeting. Because I was present physically in the room during RBWG meetings, after introducing myself, I asked members if I could record the meeting. Upon receiving all group members' verbal consent at the beginning of each meeting, I initiated the audio recording and placed the recorder near the center of the meeting table. After placing the main audio recorder, I placed and started a backup recorder on a flat surface (e.g., chair or table) next to where I was sitting during RBWG meetings. I began to use a backup

recorder in October 2015, after a recorder malfunctioned when I was shadowing the CRO.

Approximately 5 minutes of unrecorded time was lost as I configured the second recorder.

During an April 2016 RBWG meeting, the main audio recorder placed at the center of the

conference table malfunctioned, and I waited until an appropriate lull in the meeting to replace it

with the backup recorder. The backup recorder captured the meeting in full, and, later, I

transcribed the audio for data analysis. Additionally, although the CRO invited me periodically

to sit at the conference table during RBWG meetings, I chose to sit in a row of chairs that lined

the wall in conference rooms where RBWG meetings took place. Placing myself away from the

conference table allowed me to observe group members in full and to take notes without

distracting members' attention away from their group work.

Institutional Review Board (IRB) approval for this study was received initially on

December 11, 2014, under protocol 14-0673, *Resilient Cities*. Dr. Bruce Goldstein, Associate

Professor in the Department of Environmental Studies, serves as the Primary Investigator (PI).

Co-investigators on the research study include Dr. Leah Sprain, Assistant Professor in the

Department of Communication, and myself. An amendment was approved on December 15,

2015 to allow Lee Frankel-Goldwater, a graduate student researcher, access to gather and review

study data. Additionally, two requests for continuing review were approved on December 17,

2015, and December 7, 2016. As defined through the IRB protocol, data were stored on a

password-protected laptop and a password-protected Dropbox that was available only to study

collaborators, including the PI, co-investigators, and a graduate student research assistant. The

collection of identifiable information was restricted to what was disclosed by RBWG members

within the discourse occurring naturally during the meeting. I, along with other researchers, did

not solicit any additional personal information from RBWG members.

Over the course of this research study, I received funding through two funding bodies to complete two of the study's procedures. First, between September 2014 and August 2015, observation of Resilient Boulder, including RBWG meetings, was conducted as a research assistant of a funded National Science Foundation (NSF) project, titled "RIPS Type 1: The Interdependence of Built, Social and Information Infrastructures for Community Resilience: A Participatory Process" (NSF 1441263). Second, transcription of audio excerpts of RBWG members' talk about nonmembers' contributions was funded with a $450 research grant from CU-Boulder's Department of Communication. These grants provided partial funding for observations and transcription of group meetings; however, I continued to engage in observation beyond the funding period provided by the NSF grant, and I transcribed audio recordings in addition to those funded by CU-Boulder's Department of Communication.

Data transcripts completed by hired transcriptionists and myself used *broad transcription*, which includes words spoken and their speakers, speech turns, truncation of words, long pauses, laughter, and indecipherable words (see, e.g., Du Bois, Schuetze-Coburn, Cumming, & Paolino, 1993). This study's transcripts display RBWG members' talk at the utterance level, but they do not include intonation symbols, such as tone, accent, or other vocal sounds (Du Bois et al.). Data also were transcribed to represent exactly what a speaker said, and because speakers do not always speak in sentence form, transcripts include fragments, truncated words, and verbal fillers (Du Bois et al.).

Although I attempted to preserve original words spoken by RBWG members, there were two circumstances that resulted in changes to transcripts. First, in the rare event that transcript excerpts required editing for the sake of readers' clarity, I made the appropriate grammatical changes and indicated that speakers' words been edited by placing them between two brackets

(e.g., "[ ]"). Second, although all RBWG members consented verbally to observation and

recording of group meetings, I removed information that might identify individual members,

including speakers' names, to draw attention to group members' talk rather than to identities of

the speaker. Transcripts were edited to provide anonymity to all individuals, regardless of group

affiliation (e.g., RBWG members and nongroup members solicited for contributions who were

discussed in RBWG members' talk). Because the study focused on the talk of bona fide group

members and not on the demographical makeup of the group, member identifiers (e.g., gender

and organizational role) also were removed. Pseudonyms, and any gender affiliations linked

with naming practices, were assigned randomly using a name-generator website

(www.behindthename.com). Additionally, in cases where anonymity of group members was

difficult to achieve through the use of a singular pseudonym (e.g., due to topics discussed by

those members), I used multiple pseudonyms for those members.

Data Analysis

I used a qualitative data coding approach to understand how RBWG members talked

about others' contributions, and how those others and their contributions were characterized and

positioned in RBWG members' talk. Employing a qualitative coding approach to make sense of

group members' talk led to development of concepts that were in line with the study's applied

communication research approach—particularly, the study's goal of producing recommendations

for the group studied.

A qualitative coding approach was appropriate for understanding strategies and

characterizations that RBWG members used when they talked about others' talk, because

members' talk has consequences on subsequent group outcomes. In line with the BFGP that

guided this study, RBWG is embedded within contexts that influence group members' talk. A

qualitative approach to data analysis aligns with the BFGP in that it understands actions, including communication actions, as situated in and consequential to conditions. Additionally, this analytic approach was an appropriate method for conducting applied communication research by examining interactions to understand how and why a phenomenon occurs in interaction, and with what consequences. A qualitative approach to data analyses requires researchers to innovate throughout the process of analysis based on what is revealed in the data; hence, researchers are responsive to problems presented in the data and innovate modes of analysis to match observed problems, rather than following a prescribed and static analytic framework. Qualitative coding analyses require an intimacy with the data throughout the analysis process that promotes researchers' ability to define but also respond to embedded problems within the data. This responsive approach to data analysis positions researchers to respond to problems found in observed interactions with practical interventions.

Similar to the grounded theory approach to coding data (see, e.g., Glaser & Strauss, 1967; Charmaz, 2011), I used an iterative and multistep process to analyze group members' talk, in which identification and relationships among codes, categories, and concepts were ongoing and emergent as new data were collected (Charmaz, 2006; Glaser & Strauss, 1967). Although I did not engage in a grounded theory approach per se in this study, the coding procedures employed followed the initial procedures outlined in grounded theory (Strauss & Corbin, 1998). For example, in the first round of analysis I conducted line-by-line *open coding* to identify a set of codes in RBWG members' talk that described actions and that characterized others and their contributions (Strauss, 1987). Second, I conducted *axial coding* to ascertain relationships within and between codes, to categorize those codes into categories, and, then, to consider relations between categories and within and between code types. Third, I conducted *selective coding* that

considered patterned relationships between categories, to reveal key concepts of group members'

talk about others' contributions. The final step considered the embeddedness of concepts within

RBWG contexts, theorizing relationships between concepts and environments that influenced

RBWG members' talk (Charmaz, 2011; Strauss & Corbin, 1998). Below, I discuss in further

detail these coding processes.

The first step in analyzing data included *open coding* of RBWG meeting transcripts,

which Strauss and Corbin (1998) described as the identification and naming of discrete incidents,

actions, events, and ideas. Open coding was structured in line with the research foci. First, I

sought to understand strategies that RBWG members used when they talked about contributions

that were solicited from nonmembers. Because I focused on strategies that RBWG members

employed as they talked about others' talk, I conducted an open coding of those communication

actions. Focusing on actions in this way followed Charmaz's (2011) process coding format, in

which analysts use *gerund coding procedures*, employing codes that are distinguished by their

emphasis on activities that end in "ing" (e.g., working, playing, and observing). However, action

codes allude to, but do not address fully, other research foci that inquired into how RBWG group

members characterize external groups and contributions offered by members of those groups. To

focus on those who were not part of the group and their solicited contributions, I used open

coding procedures to identify RBWG group members' talk that characterized nonmembers

providing information and that characterized their contributions.

It is important to note that RBWG members' talk about solicited contributions from

members of external groups can represent, simultaneously, actions, characterizations of

nonmembers, and characterizations of others' contributions. To code effectively for both actions

and characterizations, as found in RBWG members' talk, first, I engaged in gerund coding of

RBWG members' talk and, then, identified characterizations of nonmembers and their

contributions. Starting the open coding process with the identification of actions established

communicative practices that were evident within the data, and, at the same time, it pointed to

characterizations in the talk being analyzed. Characterizations of others and their contributions

often were the object of actions identified in RBWG group members' talk. For example, a code

that identified a RBWG group member criticizing nonmembers was coded as an action. The act

of criticism also called attention to what was being criticized, which, in this example, was

members of an external group and/or their solicited contributions. Additionally, after an initial

round of open coding, I returned to the coded actions and kept only those in which the object of

the action was either nonmembers providing contributions, those nonmembers' contributions, or

both; keeping action codes with corresponding characterization codes ensured that codes were

relevant to RBWG members' talk about nonmembers' contributions. As part of the open coding

process, I also identified *in vivo codes*, actual talk engaged in by RBWG members, because how

members talked about contributions from others was useful in axial coding, the next step in the

analytic method (Glaser & Strauss, 1967).

The next step of *axial coding* looked at relationships between codes that were identified

via open coding, to identify categories. Beyond identification of categories, Strauss and Corbin

(1998) explained that researchers should position categories in relation to one another to develop

an explanation or to contextualize the phenomenon being studied. The second step included the

following procedures, as described by Strauss (1987): (a) identifying *properties*, general and

specific attributes, of a category, and their *dimensions*, positioning of a property on a continuum

or range; (b) identifying conditions, actions, and consequences that are associated with talk about

nonmembers and their contributions; (c) drawing relations of categories to subcategories; and (d) looking for relations between categories.

Throughout the axial coding and subsequent analytic steps, I engaged in *theoretical memoing*, which takes many forms, ranging from informal notes to formal text that could be used in the dissertation, to position ideas in relation to one another (Strauss & Corbin). Theoretical memos served as opportunities for initial analyses to be posed and to interrogate properties and dimensions of categories and concepts. Developing categories fully through these procedures led to developing concepts for theory construction.

The third analytic step included *selective coding*, which Strauss and Corbin (1998) described as building theory, the creation of concepts that, in relation to one another, describe what is occurring. In performing selective coding, I considered categories and their relations, bringing them together to form a central category or concept (Strauss & Corbin). Once those concepts were identified, they were refined through returning to the data and conducting *theoretical sampling*, which, according to Charmaz (2011), involves theory construction, with researchers revisiting obtained data or adopting a conceptual lens that is appropriate to new data obtained, to explain, describe, and/or understand relationships between and among concepts.

Finally, to address the embeddedness of concepts in a variety of relevant contexts and environments, I considered the organizational, local, and political contexts in which the RBWG was embedded. Consideration of these contexts led to understanding contexts that influenced most RBWG group members' talk about nonmembers' contributions.

Although the analytic method has been presented here as a series of steps, this type of data analysis, largely, is iterative, moving back and forth from observation to analysis, to allow each part of the method to inform subsequent data collection and analysis. Thus, I continued

moving from open coding to axial coding and selective coding as I collected data, employing a continuous process of refining categories until all data were collected. Although I began collecting data in January 2015, the analysis of those data did not begin until April 2016. This extended time frame meant that I could not engage fully in back-and-forth data-collection and analysis processes. However, as I collected data between April and August 2016, I engaged in an active process of refining coding procedures, developing categories, and bringing those initial analyses with me as I observed in the field, to embody more closely an iterative qualitative data-analytic approach to making sense of group members' talk.

Chapter 3 Notes

[1]Resilience is studied across physical and social sciences, including ecological science (beginning with Holling, 1973; for a typology of resilience, see Brand & Jax, 2007), community psychology (see, e.g., Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008; Zautra, Hall, & Murray, 2008), and urban planning (see, e.g., Pickett, Cadenasso, & Grove, 2004). Communication scholars, increasingly, have focused on resilience because of the centrality of communication to fostering and maintaining endurance through adaptability, especially in the face of crisis (see, e.g., Beck & Socha, 2015; Buzzanell, 2010; McGreavy, 2016; Mundorf, 2015).

[2] Nabatchi and Amsler (2014) found that public administration literature did not use a consistent terminology to describe solicitation processes that involve citizens. My review of literature found that the concepts of "public participation" and "public engagement" were used most often to describe municipal processes involving citizens; however, across that scholarship, Nabatchi and Amsler found that the following terms were used: "citizen engagement, citizen participation, civic engagement, community engagement, [sic] citizen participation, resident participation, community participation, community involvement, stakeholder involvement, public deliberation, deliberative democracy, empowered participatory governance, democratic governance, collaborative governance, and collaborative policy making" (p. 65S).

[3]Nabatchi (2012) used a similar definition to describe citizen participation in *A Manager's Guide to Evaluating Citizen Participation* presented by the IBM Center for The Business of Government.

CHAPTER 4

DATA ANALYSIS

To explore how Resilient Boulder Working Group (RBWG) members' talked about contributions solicited from others, in this chapter, first, I present ways in which RBWG members solicited contributions from others, and then analyze members' talk in the group about those contributions. Analyzing RBWG members' talk revealed that their discussions differed depending on the group from which contributions were solicited; these groups included the Boulder community, boards and commissions, and the City Council. RBWG members not only distinguished contributions based on the groups solicited but they also processed them using different evaluation frameworks. Their talk about contributions solicited from the Boulder community and from boards and commissions revealed that group members struggled to define what should count as valid *public opinion*, majority viewpoints that are held by the public.

Initially, group members employed an evaluation framework that defined "valid public opinion" as representative, adjusted proportionally to reflect the community's demographics, and that reflected a valid statistical number of responses. Such an approach was effective for evaluating contributions that were solicited through fixed-item questionnaires, but when other types of contributions were solicited—specifically, open-ended responses that resulted from public meetings and workshops (hereafter, *public engagement contributions*)—RBWG members' talk revealed that their evaluation approach was not congruent with responses that resulted from those solicitations. Although RBWG members recognized that both types of contributions could be useful to their task, members' talk portrayed a struggle to establish criteria for determining the validity of public engagement contributions, leading, in some instances, to premature dismissal of those contributions, and, in other instances, a lack of discussion about

contributions. Alternatively, members' talk about contributions solicited from City Council revealed that those contributions were viewed in tension with members' goal of enacting a resilience-thinking process in their development of the resilience strategy. In response to that tension, RBWG members employed an institutional framework to consider contributions from the Council that were in conflict with RBWG's attempt to develop the resilience strategy through resilience thinking.

Resilient Boulder Working Group Members' Talk about Contributions Solicited from Other Groups

RBWG members solicited contributions from others periodically between April 2014 and May 2016. During that time, contributions were solicited from the Boulder community, boards and commissions, and City Council. Contributions from the Boulder community were solicited through invitation-only workshops, an open-invitation community event, and public opinion survey questionnaires. Contributions also were solicited in response to the RBWG's public draft of Boulder's resilience strategy, in person at a community open house event, through an online comment tool that was hosted on the Resilient Boulder website, and during the City of Boulder boards' and commissions' meetings, which was the only time that RBWG members solicited contributions from those boards and commissions. City Council's contributions also were solicited through organizationally mandated presentations on the status of RBWG's work, as well as in response to RBWG presentations during City Council *study sessions*, meetings that were are publicly between a municipal department and City Council that are related to ongoing municipal projects. These solicitations of contributions are explored below, categorized by the group that was solicited.

Boulder Community

      Invited workshops. RBWG solicited contributions from others beginning in April 2014,

with the launch of Boulder's participation in the Rockefeller Foundation's 100 Resilient Cities

(100RC) initiative. The invitation-only agenda-setting event included 85 participants and was

held in a meeting room at the University of Colorado Boulder (CU-Boulder). According to the

Workshop Summary Report produced by HR&A Advisors (2014), a 100RC strategic partner that

was included as part of Boulder's 100RC designation, workshop attendees included "a range of

stakeholders [critical] to the success of the resilience initiative, including representatives from

the City of Boulder, the County, University of Colorado Boulder, community groups, and the

private sector" (p. 2). The workshop served as Boulder's introduction to the 100RC initiative

and aimed to "familiarize participants with the 100RC resilience framework and concepts" (p. 2).

The April 2014 workshop also included solicitation of contributions; specifically, identification

of Boulder's resilience issues, assessments of Boulder's performance across 12 resilience

indicators, and Boulder's capacity to respond and react to a shock.[1] Workshop attendees also

completed a questionnaire about their perceptions of "urban resilience" as a concept and in

relation to Boulder. Following the workshop, an event that was open to the public was held,

which included presentations from 100RC, HR&A, and the Institute for Social and

Environmental Transition-International (ISET; see http://i-s-e-t.org), a resilience strategy

nonprofit organization that is located in Boulder. Although the evening event was tied to the

workshop, no contributions were solicited from attendees.

      A second invitation-only workshop occurred in March 2015, when RBWG members

invited representatives from the local risk community (e.g., emergency management personnel,

nonprofit professionals, government researchers, scientists, and academics) to participate in a

"100RC Asset Mapping and Risk Assessment mini-workshop" (G. Guibert, personal

communication, March 12, 2015). In the half-day workshop, 100RC-funded consultants from

HR&A led participants through a series of activities that identified and categorized local risks as

ongoing or accumulated issues (e.g., stresses), or sudden phenomena (e.g., shocks), and that

positioned those risks in relation to one another. For example, workshop attendees reflected on

"which shock/asset combinations carry the highest risks," "which assets the group believes are

most vulnerable to shock events," and "which shocks the group believes will have the greatest

overall impact on assets" (G. Guibert, personal communication, March 12, 2015).

     Open-invitation community events. RBWG members also solicited contributions

during a February 2016 open-invitation community forum that was cohosted by Resilient

Boulder and BoulderTalks (n.d.), a CU-Boulder Department of Communication center that

"fosters community and knowledge through democratic engagement" (par. 1). The evening

session, held at Boulder Public Library, included "interactive discussion about how our

community can prepare for shocks and stresses while improving our quality of life" (Resilient

Boulder listserv email, February 18, 2016). Although two public roundtable discussions were

scheduled for February 2016, one was cancelled due to low participant registration. CU-Boulder

Department of Communication faculty member and BoulderTalks executive committee member,

Dr. Leah Sprain, and a team of student facilitators from Colorado State University's Center for

Public Deliberation (see http://cpd.colostate.edu) led participants through a deliberative process

directed at resilience and Boulder's resilience strategy, using electronic survey questionnaire

tools and roundtable discussions. Using an electronic keypad, participants were asked their

beliefs about Boulder's resilience challenges, goals, and guiding principles, as well as qualities

of resilience and attributes of transformative communities to which they believed Boulder should

aspire. Participants then completed a deliberative exercise following the keypad questionnaires; specifically, in small groups, they considered potential tradeoffs and consequences in Boulder's process to become a resilient community (Resilience Forum Facilitator Guide, February 22, 2016).

Community survey questionnaires. RBWG members solicited contributions from the Boulder community through online and mailed questionnaires. The first survey conducted employed an online, open-response questionnaire about resilience in Boulder. The questionnaire was developed by another 100RC city (Berkeley, California), with questions designed to feed into the *city resilience matrix*, a mandated task by 100RC that includes resilience categories of health and well-being, economy and society, urban systems and services, and leadership and strategy. The questionnaire was available to be completed by anyone interested in resilience in Boulder who self-identified as a local community member, including Boulder residents, as well as commuters and residents in neighboring towns. In February 2015, 553 Boulder community members responded to the survey invitation that was shared through Twitter, Facebook, e-mail, and the Resilient Boulder listserv.

RBWG also solicited contributions online and in paper form as part of a Boulder Valley Comprehensive Plan (BVCP) survey beginning in November 2015. An independent firm, RRC Associates (see http://www.rrcassociates.com) administered the questionnaire to 6,000 Boulder households (City of Boulder, Boulder Valley Comprehensive Plan, 2017). Those asked to participate were selected randomly and invited to complete a mail-in or online questionnaire. The questionnaire identified resilience as one of the emerging issues of focus in the 2015 BVCP update. Although questions did not reference "resilience" directly, it was embedded in questions that asked for participants' feedback on community values, preferences in regard to community

livability and growth management, and perceptions of neighborhood viability (City of Boulder, BVCP, 2015).

      Open house and public comment period. RBWG solicited feedback to a public draft of Boulder's resilience strategy beginning with a community reception to celebrate the launch of the strategy, followed by a 3-week open comment period following. In April 2016, RBWG and the City of Boulder hosted an open house, called "Connecting with Boulder's Resilience Strategy," at an art gallery in downtown Boulder; the event featured formal presentations by 100RC President Michael Berkowitz, Mayor Susan Jones, City Manager Jane Brautigam, and Chief Resilience Officer (CRO) Greg Guibert. Attendees were given printed copies of the resilience strategy and invited to talk with staffed resource tables that featured representatives from disaster relief organizations and RBWG members. The open house was a kickoff to the public comment period for the resilience-strategy document, and comment cards asking for feedback on the strategy document were provided for attendees to complete. Contributions, designed to acquire open feedback from Boulder community members about the resilience strategy, were solicited from the Boulder community via an online form and e-mail.

      Boards and commissions. RBWG members attended meetings of 15 City of Boulder boards and commissions, to present and collect feedback about the resilience strategy. Members of boards and commissions were provided with a copy of the resilience strategy prior to the meeting as an appendix to the meeting's agenda. At each meeting, a RBWG member provided a short overview of the resilience strategy before requesting feedback. Board and commission members are appointed by and advise City Council on topics related to their qualifications, with meetings being open to the public and including opportunities for public comment (City of Boulder, Boards and Commissions, 2016). Each board or commission is required to provide

City Council with meeting summaries, which often include information on issues that, subsequently, are taken up by the Council.

City Council

RBWG solicited feedback from the City Council during organizationally mandated project status presentations given during Council *study sessions*, a public meeting between the Council and city staff members that allows Council members to learn about and respond to a municipal project as it is being developed. Study sessions differ from City Council meetings in that no votes are cast, and community members are not invited to provide comments, whereas City Council meetings include opportunities to hear from community members about municipal issues or projects that are discussed (City of Boulder Colorado, City Council, 2017).

RBWG solicited feedback from the City Council during study sessions in May 2015, September 2015, and February 2016. The format of those meetings included a presentation made by the CRO that concluded with questions asked to solicit feedback from Council members. In May 2015, after sharing the current status of RBWG and future direction of Resilient Boulder in the second phase of the 100RC framework, two questions directed contributions that were solicited from the Council (Brautigam, Driskell, Richstone, & Guibert, 2015a): (a) "Does City Council have any questions about the Phase I process to date?" and (b) "Does City Council have any feedback on the initial scoping of potential Phase II focus areas?" (Brautigam et al., 2015a, p. 1).

In September 2015, RBWG members shared a status update on Phase II activities and solicited contributions in response to their initial outline of Boulder's resilience strategy. Responses to current and future tasks of the working group revolved around the questions: (a) "Does City Council have any questions or input regarding the Phase II activities?" and (b) "Does

City Council have any feedback on the initial scoping and outline of the Resilience Strategy?" (Brautigam, Driskell, Richstone, & Guibert, 2015b, p. 1).

In addition to the presentation and response format of the first two meetings, in February 2016, the CRO and another RBWG member led City Council members through a risk-and-resilience scenario exercise that was developed as a community engagement tool. Council members were given 16 cards, with each representing a trend (e.g., the sharing economy, energy grid disruption, water shortage, or immigration into Colorado) that had the potential of affecting Boulder in the next 20 years (Brautigam, Driskell, Richstone, & Guibert, 2016). As part of the pilot exercise, titled "The Big Sort," Council members placed each card in one of four quadrants, based on their perception of the trend's impact (high or low) on Boulder in the next 20 years and the certainty (high or low) that the trend was accurate. RBWG solicited contributions from Council members regarding both the updated outline for Boulder's resilience strategy and "The Big Sort" community-engagement tool, asking the questions: (a) "Does City Council have any questions or input regarding the Resilience Strategy outline?" and (b) "Does City Council have any feedback on the proposed community engagement method?" (Brautigam, et al., 2016, p. 1).

Discussion of Contributions

As indicated previously, I categorized solicited contributions based on the group solicited, because RBWG members' discussions of those contributions were in direct relationship with members' talk about the group from which they were solicited. As presented below, RBWG members used different frameworks to consider contributions based on the group solicited. It is important to note that although some contributions were discussed at length, others were not discussed at all (Table 1 indicates which contributions were discussed); those that were not discussed included the March 2015 invitation-only workshop on Boulder's risks

and resilience opportunities, and the February 2016 resilience forum. The April 2014

community workshop featuring the Resilient Boulder launch was discussed once in March 2015;

although RBWG members' talk indicated a desire to compare the February 2015 survey results

with the April 2014 contributions, that meeting did not include additional talk about the

workshop-solicited contributions' content or how they compared to subsequent contributions

solicited.

In two of the three instances in which contributions were not discussed, RBWG members

had not received reports in time for those contributions to inform the task for which they were

sought initially. In the case of the April 2014 Workshop, the CRO reported that he was not given

access to documentation of contributions. With regard to the February 2016 resilience forum,

the report of contributions was not received before RBWG members began developing the public

draft of the resilience strategy. Although several members were present and observed both of

these events, those members did not discuss contributions solicited during the April 2014 or

February 2016 events at RBWG meetings.

In contrast, notes from the March 2015 Workshop were provided to RBWG members in

early April 2015, approximately 2 weeks following the workshop. Members had access to

written documentation of contributions received during the workshop in which they worked on

the Preliminary Resilience Assessment (the task affiliated with contributions solicited during the

workshop). However, they did not discuss those contributions during a RBWG meeting. One

caveat to contributions solicited during the March 2015 workshop is that they were similar to

reported data that already were available to RBWG members (e.g., types of shocks and stresses,

likelihood of shocks and stresses in Boulder, and potential risks to city). Evidence of members'

access to data that mirrored contributions provided during the March 2015 workshop was

observed when the consulting group that facilitated the workshop, HR&A, integrated into an

analysis document that was given to members, prior to the workshop, all available information

about Boulder's shocks and stresses, and the City of Boulder's risks (Assets & Risks Tool,

March 14, 2015). Despite having access to contributions from the workshop and data compiled

by HR&A on Boulder's shocks and stresses, RBWG members did not discuss the contributions

nor the data.

Table 1

RBWG Members' Discussion of Contributions Solicited from Others

Contributions discussed	Contributions not discussed
February 2014 Resilience Survey	April 2014 Workshop
May 2015 City Council Study Session	March 2015 100RC Asset Mapping and Risk Assessment Workshop
September 2015 City Council Study Session	February 2016 Deliberative Inquiry Session
January 2016 BVCP Survey	
February 2016 City Council Study Session	
April 2016 Resilience Strategy Launch Open House & Public Comment Period	
May 2016 Boards & Commissions Presentations	

Resilient Boulder Working Group Members' Talk about Others' Contributions

RBWG tasks to develop and implement Boulder's resilience strategy relied on

contributions solicited from groups, as mandated by the 100RC grant guidelines, and RBWG

members discussed those contributions in ways that were consequential to their tasks. First, as members talked about those contributions, they revealed frameworks used to process them that also presented challenges to RBWG's task of developing the resilience strategy through resilience thinking. Members' talk also revealed that members considered contributions from both the Boulder community and City Council in ways that created barriers to learning from them. With regard to the Boulder community, RBWG members' talk revealed that they relied on evaluation criteria that were not congruent with contributions from public engagement events (e.g., criteria used to assess contributions from survey questionnaires were applied to open-ended responses that were solicited during public engagement events). Although the Boulder community contributions that were evaluated using a framework that aligned with the survey questionnaire results were dismissed, members considered contributions from boards and commissions using an alternative evaluation process. Despite discussing contributions from boards and commissions differently than those provided by the Boulder community, RBWG members suggested that the two groups could be considered collectively as the Boulder community. Additionally, RBWG members' talk about City Council's contributions pointed to tensions, simultaneously, in accomplishing their resilience tasks and adhering to institutional guidelines for working groups within the city government context.

Boulder Community

Across RBWG members' talk about contributions solicited from others, their reliance on notions of how to consider contributions from the Boulder community were not congruent with all types of contributions solicited as part of the RBWG's task to develop Boulder's resilience strategy. Members' talk revealed that they relied on processing practices for discerning valid public opinion contributions that stemmed from survey questionnaires, not contributions

solicited through public engagement events. This distinction proved to be consequential to how contributions from Boulder community members were considered, particularly with regard to how RBWG members' discussed the value of those contributions. RBWG members applied evaluation criteria associated with contributions that resembled standardized data (e.g., where respondents choose from preselected options), meaning that such data represent an entire population and could be weighted to reflect the population's demographic makeup. However, these evaluation criteria for public opinion did not account for fundamental characteristics of public engagement contributions, which include open-ended, and, sometimes, conflicting, responses on a wide-variety of topics and concerns that may result in the introduction of new challenges and ideas that group members may not have considered previously. Thus, public engagement contributions were evaluated and dismissed on grounds that did not match their form or function. Even when RBWG members recognized contributions from public engagement as being distinct, they relied on schemata about the relationship between city government working groups and valid public opinion to construct responses to the Boulder community.

Despite depending largely on criteria for valid public opinion to evaluate contributions that did not match public engagement contributions considered, RBWG members acknowledged their awareness of an alternative process for evaluating open-ended responses (hereafter, "expressed evaluation process") when they attempted to justify their decisions to the Boulder community. Although RBWG members never applied fully the expressed evaluation process to all public engagement contributions, RBWG members' talk employed practices that mirrored the process put forth. Members enacted practices of the expressed evaluation process when they considered contributions from boards and commissions, a group that they labeled within the

Boulder community. By demonstrating practices of the expressed evaluation process, RBWG members' talk revealed that processing contributions by using different evaluation practices (e.g., based on criteria for public opinion or that mirror the expressed evaluation process) led members to perceive the value of contributions in different ways.

Evaluation schema drawn from valid public opinion. RBWG talk revealed that members drew from a shared evaluation schema when considering contributions from others. Members' talk about contributions from the Boulder community revealed three criteria of public opinion data that were used to judge their validity: (a) community members solicited for contributions mirrored demographically the Boulder population, (b) the number of contributions allowed for statistical significance of the contributions to be determined, and (c) solicited contributions could be weighted to mirror demographic populations of the Boulder community. RBWG members drew on these criteria informally to determine whether a contribution could be considered a valid form of public opinion.

Respondents' demographics mirror the Boulder community. As part of their discussion, RBWG members distinguished whether contributions met the criteria of public opinion. Members' talk provided an image of valid public opinion, in which demographics of respondents contributing data mirrored the Boulder population. Specifically, members' talk about contributions solicited through survey questionnaires revealed their expectations that public opinion is valid when it represents accurately the entire Boulder community.

RBWG members determined the validity of survey questionnaire responses by inquiring about whether the solicitation procedures controlled for respondents' demographics. By asking about respondent recruitment techniques, members questioned whether questionnaire responses could be considered valid forms of public opinion. In March 2015, members compared the

resilience survey questionnaire with an established community survey questionnaire that is
conducted annually, to determine whether they should interpret the results as valid contributions
from the Boulder community. The March 2015 group discussion, despite focusing on a
comparison between two types of survey questionnaires, illuminates one of the criteria that
members used to evaluate other types of contributions, including public engagement
contributions. Members described the "normal community survey" (March 2015, line 2331) as
producing valid data, understood as public opinion, because its recruitment procedures ensured
"controlled demographics" (2340) of respondents. In comparison, the resilience strategy had "no
scientific validity" (2348) because it allowed for "self-selected" (2344) respondents to
contribute, leading to an uncertain and uncontrolled demographic distribution of respondents. In
the following excerpt from March 2015, members compared the two survey questionnaires,
which revealed members' assumptions that valid contributions come from solicitations that
ensure that respondents' demographics mirror the actual Boulder population.

> 2330   Alecia: So, how did the outreach that we did for this survey, compared
>
> 2331   to our normal community survey that we do? What, what's …
>
> 2332   Ann: This was all- this was not the same. I mean, a community survey,
>
> 2333   we mail to every home …
>
> 2334   Alecia: Every home.
>
> 2335   Ann: … in the city of Boulder.
>
> 2336   Alecia: Okay, got it. Right.
>
> 2337   Dominic: And it's controlled for demographics, and so …
>
> 2338   Ann: Right.

2339   Dominic: It's intended to …

2340   Ann: Be statistically valid.

2341   Dominic: The community- where this one was self-selected, and, and

2342   there is no effort to normalize it to the …

2343   Nathaniel: Okay.

2344   Dominic: … community.

2345   Ann: There was no scientific validity to this survey.

2346   Theresa: This feels like a self-selected survey. This …

2347   Ann: Well

2348   Nathaniel: And we, and we …

2349   Theresa: No, I'm just …

2350   Nathaniel: … made that choice. It's very expensive (to make it)

2351   scientifically representative.

2352   Ann: I'm not saying it's a bad thing; I'm just saying it changes the

2353   results.

(March 2015, lines 2330–2353)

RBWG members, thus, used recruitment methodology to determine whether respondents were symmetrical demographically to the Boulder population. Their talk revealed that the resilience survey questionnaire results did not mirror accurately demographics of the Boulder community, and, therefore, those results did not have "scientific validity" (2345). As Ann said at the end of the above excerpt, "There was no scientific validity to this survey" (2345). She followed up this claim later by stating, "I'm not saying it's a bad thing; I'm just saying it changes the results" (2352–2353). Ann's comments distinguished the questionnaire as different from the

"community survey" (2332–2333), leading her to conclude that the resilience questionnaire

lacked "scientific validity" (2345); by calling out the difference, she characterized resulting

contributions as departures from data that are valid. Ann's statement, "it changes the results"

(2353), showed that RBWG members held the assumption that contributions were valid only

when they could be controlled demographically to represent the Boulder population. Although

Ann qualified the resilience questionnaire, and subsequent responses, through her statement,

"I'm not saying it's a bad thing," ultimately, she positioned that questionnaire and resulting

responses as lacking characterizations that made the "community survey" (2332–2333) valid.

RBWG members' assumptions about the validity of solicitations informed their

evaluation of subsequent contributions. Additionally, their evaluation criteria for contributions

were drawn from assumptions about validity that aligned with contributions such as those

produced through survey questionnaires. As explained below, RBWG members evaluated the

validity of contributions based on the number received from respondents and by comparing how

various demographic categories of respondents responded.

Inadequate number of responses. RBWG members used the number of respondents to

determine the validity of contributions. Members' tendency to question the validity of

contributions based on their quantity was evidenced when they were given the sample size

during the introduction of contributions and in discussions that evaluated those contributions

based on the low number of responses. For example, presentations of survey results included the

sample size as a means to evaluate contributions' validity. In the case of the Boulder Valley

Comprehensive Survey, RBWG member LaTasha stated that 6,000 residences received requests

for contributions (January 2016). Similarly, during a presentation of responses from the

resilience questionnaire, Nathaniel referenced that 553 respondents answered the questionnaire

invitation (March 2015). However, in a May 2016 meeting, RBWG members expressed

disappointment in receiving 20 contributions from the Boulder community in response to the

resilience-strategy public event and open-comment period. In comparison to the survey

questionnaires that produced valid public opinion, the number of responses from the Boulder

community contributed to their dismissal, as RBWG members never considered them after the

following interaction. In the excerpt below, members laughed at the number of responses

received, and Nathaniel insinuated that the number was too low when he used "grand total" (36

& 39) twice to describe the number of responses.

36   Nathaniel: We got a grand total of 13 public responses online.

37   ((Some laughter))

38   Phil: Oh man.

39   Nathaniel: Yeah, grand total.

40   ((Laughter))

41   Nathaniel: Plus, an additional …

42   Anthony: Ten, or something?

43   Lilian: Six.

44   Anthony: There we go.

45   Lilian: From the actual event. ((Slight laughter)). There were 20

46   public responses.

(May 2016, 36–46)

Later in that discussion, Nathaniel reintroduced the point that only 20 responses were received

from the Boulder community. RBWG members highlighted that this number was lower than

they anticipated, evidenced in Lilian's response of "We can't change it right?" (May 2016, 369)

which confirmed that the number was less than the desired number of responses. Showing that

the responses did not meet expectations used to evaluate those contributions for validity,

Nathaniel's reply to Lilian suggested that the number was so low that it reflected poorly on the

resilience strategy—the RBWG task to which contributions responded. As Nathaniel stated,

"Well, I know, but I mean, you also don't want to telegraph it either, right?" (370).

These comments provide evidence that RBWG members drew from an evaluation

framework. First, members insinuated that the amount of contributions did not meet the

threshold that was expected, which allowed them to dismiss contributions without attending to

their substance. Second, members expressed disappointment in the number of responses

received, and they implied dismissal of them based on their interpretation of that number as

being a negative reflection of the resilience strategy. RBWG members' disappointment in the

low number of responses received was made clear in Lilian's response to Nathaniel that provided

a perspective on why so few responses were received: "I don't think you should be ashamed of

the fact that I think a lot of people read it, and they kind of agreed with it, and they understood it,

and they didn't feel the need to [respond]" (371–373).

RBWG members' talk about the number of community contributions received was

consequential because it led them to dismiss or never attend to them. Lilian's attempt to provide

perspective regarding the number of responses further dismissed them, by positioning them as a

small minority, whereas a silent majority approved the resilience strategy by not providing

contributions. Dismissal of community contributions later was confirmed by the absence of

RBWG members' talk that processed the substance of those contributions.

***Responses did not portray voices fairly*.** Another criterion for evaluating contributions

that RBWG members employed was whether all group members' ideas were represented.

Specifically, members sought to differentiate what part of the population contributed which

ideas. In January 2016, they discussed how some demographic categories of respondents were

lower or higher than anticipated. That discussion incorporated the idea of "demographic

mirroring," described previously, but it also pointed to the weighting of resulting contributions to

represent those groups appropriately:

163   Alecia: A couple things I've noticed in the demographics:

164   one is, um, the percentage of Latino identified respondents is

165   pretty low. There's as many Asian or Pacific Islander as

166   Latino, so it seems like an underrepresented part of our

167   population are responsive.

168   Jacob: Another thing that was really striking is that, um,

169   52% of the respondents are less than 40, which I would have

170   thought would have been different. And so, I think, it looks

171   like we actually got a pretty heavy response rate of the

172   younger portion of our population, which would tend to

173   reinforce, probably the kind of more uh, density accepting,

174   sort of new point than the older part of the population.

175   Alecia: But that was weighted down, right?

176   LaTasha: Yeah.

177   Alecia: By age group?

178   LaTasha: If you look at the …

179   Alecia: Weighted down

(January 2016, 163–179)

Members' discussion of the response rate of Latino respondents matching those of Asian or Pacific Islander respondents highlighted that valid public opinion data included an equal distribution of contributions, described as "weighted contributions," to allow for voices to be represented fairly. In the Boulder community, the Latina/o population is larger than that of the Asian or Pacific Islander population. When LaTasha confirmed that responses from respondent groups were weighted based on the population of demographic groups in Boulder, members accepted this practice because it aligned with their expectation of the representative nature of public opinion contributions.

Members' acceptance of weighted responses also was evident in a discussion of responses from the resilience survey questionnaire, after Nathaniel admitted that the questionnaire "did not ask a lot of demographic questions . . . this is not a scientific survey" (March 2015, 2132–2134). Members differentiated between public opinion that was weighted to reflect the Boulder population and survey questionnaire results that were "skewed" (2142) and, largely, representative of one demographic group of respondents. The following excerpt from March 2015 shows how members attempted to make sense of contributions by questioning whether they were weighted across and, therefore, representative of, the entire Boulder population:

2131   Nathaniel: So, I think this is a little bit of a breakdown on who

2132   actually responded. We did not ask a lot of demographic questions.

2133   There were very specific reasons for doing that. This is not a

2134   scientific survey. You can sort of see that reflected here. A very

2135 poor response rate from the CU [Boulder] campus that's not

2136 unexpected, pretty consistent. Most, uh, commuters were from just

2137 a couple of, of locations, and almost none from Denver.

2138 Theresa: Uh, sorry, Nathaniel, does two match up with the

2139 distribution of population? I have no idea.

2140 Nathaniel: Umm.

2141 Theresa: Or does it skew towards central Boulder?

2142 Jacob: It's skewed.

2143 Nathaniel: It's weighted. We're not using skewed. (laughter) It's

2144 weighted towards central Boulder. And, uh

2145 Theresa: The response are- was, was

2146 Nathaniel: Yeah, yeah. So, I mean, thirty percent of the population,

2147 I don't think=

2148 Theresa: Gotcha.

2149 Nathaniel: =lives in central Boulder, but, um, that's definitely

2150 where we got the response. So one thing that will be interesting to

2151 do in a deeper analysis on is the age distribution, or, uh, long-time

   residents and where they live relative to respondents.

   (March 2015, 2131–2151)

Nathaniel's correction of members who called the survey questionnaire results "skewed" further

showed how members used criteria for valid public opinion that are associated with fixed-item

response data to evaluate contributions. By saying, "It's weighted. We're not using 'skewed.'"

(2143), Nathaniel highlighted that skewed results were not valid sources of public opinion

because they represented only respondents who contributed, and that they were not distributed

such that they reflected how those perspectives were represented in the Boulder community. At

the same time, Nathaniel's correction echoed RBWG members' fears of being perceived as not

adhering to this criteria, a fear that Dominic articulated at the beginning of the meeting when he

stated, "So, first of all, I don't think we want to use the word "skewed." Because [someone]

might pick up and run with it, and just really frame this in a way we [don't mean] to frame it"

(March 2015, 256–258). Dominic's and Nathaniel's comments were responding to *Daily*

Camera (Boulder's newspaper) editorials (Brautigam, 2015; Pomerance, 2014) that addressed

accusations that city government staff considered contributions only from select demographic

groups of the Boulder community rather than from all groups.

Extension of public opinion evaluation schema. RBWG talk also displayed an

expansion of members' principles of validity to include the criterion that contributions should be

accurate. Members' used this criterion to evaluate contributions and dismiss those that did not

meet the expectations of valid public opinion. Members' talk focused on whether respondents

could be trusted to provide accurate contributions, with their ability to provide accurate

contributions determined based on characteristics of the Boulder community that RBWG

members deemed to be relevant to contributions sought or received.

*Accountable to the Boulder community***.** As RBWG members drew from an evaluation

framework based on their perception of valid public opinion, their talk revealed that some

contributions did not meet these criteria, and, hence, those contributions were dismissed.

However, their dismissal of contributions included consideration of RBWG's inherent

accountability to the Boulder community as a city government working group. Members were

accountable to contributions solicited from the Boulder community because, as a municipal

working group, RBWG's constituents were comprised of the Boulder community. As Dominic said, "The public community tells us where we need to align with [resilience issues] . . . . Frankly how we vote doesn't matter one bit," because, ultimately, city government decisions are based on what "the community wants to do" (March 2015, 728–732). In response, RBWG members evaluated contributions received from the Boulder community in light of their accountability to the community and valid public opinion criteria.

Even though RBWG members acknowledged their accountability to the Boulder community, members' talk continued to use the public opinion model of evaluation. Use of this evaluation schema was evidenced through comparing contributions from the community with other types of data, as a way of considering the accuracy of contributions. The duality of accountability to the group solicited and use of the evaluation schema was evidenced, for example, in comments made by Dominic and Jacob during a discussion about how to decide which focus areas should be included in the resilience strategy. Jacob began the discussion by describing the difficulty of evaluating the focus areas based on comparing emerging issues, such as the "jobs-housing balance" (October 2015, 821), to community contributions because the groups providing contributions were not "focused on a climate change scenario" (823). In response, Dominic posited that "big data (is) gonna put our (understandings) potentially in perspective . . . to just be blunt about it" (833–836). Dominic went on to argue that community concerns about "6,000 households or 7,000 households" (840–841) were unsubstantiated "because we really don't have that much room to grow" (838). However, after questioning the reliability of community contributions by comparing them to "big data" (833), Dominic softened his earlier "blunt" (836) criticism of those contributions, by saying, "But, but it's important to, I think look at it, nonetheless" (842). Similarly, initially, Jacob compared the focus areas with

"what we are hearing from the community" (819–820), but later in the discussion, he offered

reasoning for why the community was not a reliable source for contributions, based on members'

lack of focus on "a climate-change scenario" (823). Jacob's and Dominic's comments presented

the duality of being accountable to contributions from the Boulder community and,

simultaneously, remaining committed to evaluation criteria that questioned the accuracy of

contributions.

  Characterizations of the Boulder community. As RBWG members employed their

shared evaluation schema, solicited contributions fell short of the criteria for valid public

opinion. When there were gaps in the evaluation schema, members used shared

characterizations of the Boulder community to evaluate and devalue those contributions. By

turning to characterizations of the community, members extended the evaluation schema instead

of considering that those contributions were gathered through open-ended response solicitation

techniques and represented a different type of contribution. The following subsection discusses

how RBWG members used characterizations of the Boulder community to evaluate

contributions; specifically, how their talk depicted the community as predictable, uneducated

about risk, and perceived resilience inaccurately.

  Predictable and uneducated about risk. RBWG members posited that Boulder

community members and their contributions were predictable based on characterizations of that

group as "uneducated about risk." For example, when Nathaniel presented the community's

perceptions of Boulder as a green city, Ann interrupted him twice by repeating, "Boulder's

green" (March 2015, 1362 & 1364). Ann's comments shed light on RBWG members'

characterization of community members' contributions as highlighting known characteristics of

Boulder; in this case, focused on sustainability efforts. In another meeting in May 2015, Emily

characterized Boulder community members as predictably apprehensive about city government

projects because of their lack of knowledge about risks that Boulder faced. Emily described a

recent community meeting where a community member fought a project "all the way down to

the fireflies" (624). After describing the event, Emily added:

635   I'm curious, you know, how do we anywhere, address the community's

636   apprehension? Or are they- is their understanding a barrier to having or

637   implementing some of these things? You know, the individual who

638   doesn't want to leave their house in a wildfire, the people that stand out

639   on the bridge, while the, you know, gushing flood waters are going

640   under, underneath them.

(May 2015, 635–640)

Emily's comments positioned community members as acting in predictable ways toward city

government projects because they did not understand how to act when faced with a risk. She

went on to characterize this type of community member as someone "who doesn't want to leave

(their) house in a wildfire, the people that stand out on the bridge" (637–639). RBWG members,

thus, interpreted community members' predictable attacks on city government projects as their

need to be educated about risks, as evidenced by community members' choices in the face of

danger, despite RBWG members' perception that the city government projects were designed to

protect community members.

Inaccurate perceptions about resilience. RBWG members also used Boulder community

members' perceptions about resilience to evaluate their contributions. RBWG members

characterized Boulder community members as unknowledgeable about resilience, including

positioning community members as being misinformed about Boulder's prosperity (March

2015), preoccupied with Boulder's current political climate (May 2015), and lacking

understanding of longterm issues facing Boulder, such as climate change (October 2015).

      Characterizing Boulder community members as ill-informed on issues related to

resilience was used to invalidate contributions from them that defined resilience in particular

ways. Characterizing those contributions as inaccurate, unreliable, or misguided was

consequential to their consideration by RBWG members, which also extended to members' tasks

when contributions that were characterized negatively were included and integrated into those

tasks. In July 2015, RBWG members discounted the resilience survey results referenced in the

Preliminary Resilience Assessment (PRA), one of RBWG's Phase 1 tasks, by describing them as

inaccurate. In the excerpt below, Jorge described the PRA as "wacky, and, in my personal view,

wrong" (715), based on the Boulder community's contributions that pointed to current political

issues as resilience issues:

    711   Jorge: . . . you know, when we did ours, when ours got mapped, it seemed

    712   to be something that you said earlier was right on point, which is that it

    713   was very time-bound, in that everybody's mad about housing and,

    714   allegedly, mad about transparency, though I can't imagine why they are.

    715   Um, but, and so our map came out to be wacky and, in my personal view,

    716   wrong, so do we resurvey? Maybe now's not the time, but what, what do

    717   we do to, to sort of get the real truth out of it, instead of the current issue

    718   got talked about?

    719   Nathaniel: Well, that's a great question. I mean, I think, at least for this

    720   stage, right now, what we're doing is- we're sorta setting those aside for

> 721   any number of reasons, and saying there are other community priorities
>
> 722   that we can address.
>
> (July 2015, 711–722)

Although Jorge invalidated the survey results by suggesting that RBWG should resurvey the Boulder community "to get the real truth out of it" (717), Nathaniel's reply portrayed how the characterizations could lead not only to dismissal but also that the dismissal could be hidden and presented differently to community members than how it actually occurred in RBWG members' talk. In response to Jorge's position about the survey results, Nathaniel dismissed the contributions when he stated, "We're sorta setting those aside for any number of reasons, and saying there are other community priorities that we can address" (720–722). Nathaniel's response to Boulder community members showed how RBWG members recognized how they should process contributions and, yet, their talk demonstrated a different processing of them. In this instance, members drew on characterizations of the Boulder community to invalidate survey questionnaires detailing resilience issues provided by community members. Despite the integration of these contributions into the PRA task required by 100RC, they were not discussed during group meetings when RBWG members considered the focus areas for the resilience strategy. Additionally, contributions from the resilience survey in the PRA were a result of 100RC's design for those contributions to serve as input in the PRA, and they were not influenced by RBWG's talk about them.

  Deliberating the task-related value of contributions. In the one instance of talk about a contribution from the Boulder community, RBWG members deliberated about whether it should be integrated into the resilience strategy as an example of a local group's resilience. However, as members discussed the contribution, they demonstrated the dominance of the public opinion

evaluation schema being employed. At the end of a May 2016 meeting regarding contributions

to the resilience strategy, Stefanie introduced a contribution that was provided by a Boulder

community member that focused on resilience efforts undertaken by the community member's

local group, referred to as the "King group." Members discussed the contribution as a potential

example of the local group's resilience that could result in increased investment of the resilience

strategy by the Boulder community member:

767   Stefanie: Okay, everybody should veto this. Anybody can veto this if

768   they want to. Okay, somebody, I'm not going to, I don't know who

769   exactly it (was), was talking about how their group displayed a really

770   good model of resilience from a local group. And, so I wanted to get

771   Sidney also involved in this conversation of what would it look like to

772   throw that group a bone, and sort of feature them to say, "this is an

773   example of people coming together to be resilient, you know, on the

774   local group level." And, that could get that person more invested in the

775   strategy, and it could, um, I mean it is a positive thing to have.

(May 2016, 767–775)

In introducing the contribution, Stefanie used the public evaluation framework, by categorizing it

as being from a particular type of Boulder community member. Stefanie's statement that RBWG

members could "throw that group a bone" (772) further demonstrated how they extended the

evaluation framework by characterizing Boulder community members' perceptions of resilience

(e.g., insinuating that the King group was asking for validation of its resilience efforts) and by

representing the relationship between the city government working group and community

members as related to authority and validation of what counts as resilience. In particular, by

describing the potential inclusion of the contribution to the resilience strategy as "throw[ing] that

group a bone," Stefanie depicted the group as seeking validation that its efforts were "a good

model of resilience from a local group" (770). Additionally, Anthony's response, "I read all that

person's comments. They aren't looking to have a conversation. They're looking to . . . just

talk" (782), dismissed the contribution by calling on a characterization of some Boulder

community members who were deemed irrelevant contributors, because they focused on current

political issues facing Boulder. In this example, the intergroup dynamics between the Boulder

community and city government working groups positioned contributions of Boulder community

members as being invalid forms of public opinion. RBWG members relied on characteristics of

the group providing the contribution to extend the public opinion evaluation framework that they

had established previously, and using that framework, they could dismiss that contribution.

However, in this case, RBWG members also deliberated on the value of the contribution in light

of their tasks.

As RBWG members deliberated, they discussed the value of contributions in ways that

expanded the evaluation criteria to consider both its relevant value in light of RBWG's tasks and

tradeoffs of adopting it in the resilience strategy. The following excerpt includes RBWG

members determining the value of the contribution received from the "King group" with regard

to how it could help, or work against, the group's goals:

827   Lilian: No, but as we move forward, particularly with you guys and

828   the community-based preparedness stuff, I mean the idea really

829   ultimately is this is not run through the- it's not a city effort, right? It's

830   a community-wide effort, and divesting ownership in some ways is a

831   measure of success, and we need to figure out how to do that. Whether

832   it's you know, making some examples, some positive examples of

833   local groups that did really well, why did they do well? And just kind

834   of trumpeting that success, and maybe [this] is one of those early steps.

835   Nathaniel: Yeah.

836   Anthony: So, ok, I can see it now …

837   Stefanie: That's relatively low cost (58:25 unclear mumbles).

838   Nathaniel: So I would want to talk to Sidney about the correct way to

839   do that so that we're not saying, like, "and we're going to follow your

840   model for everything we do, because we think that local groups are the

841   way"

(May 2016, 827–841)

Lilian, thus, posited the potential for adoption of the contribution to serve as an early step

towards moving Resilient Boulder beyond city government. Lilian defined the value of the

contribution beyond its accuracy, suggesting that it could provide a longterm benefit to RBWG's

goals. Stefanie also added a different type of value, by stating that the effort could be a low-cost

means of reaching RBWG's goals. Responding to positive evaluations of the contribution as

reasons to use it strategically, Nathaniel countered those evaluations with a potential tradeoff: its

adoption could portray too narrowly community resilience as conducted on the local group level.

By considering both the contribution's potential values and tradeoffs, RBWG members

employed evaluation practices that focused on that contribution's value; specifically, publicizing

the contribution towards the ends of the group's tasks.

RBWG members' use of deliberation practices to consider this contribution represented a transition from evaluation criteria concerned with the statistical validity of contributions to those that forced members to consider various task-related values of contributions and potential consequences associated with validating them. However, even as members deliberated about the contribution, they focused on its value as a tool for communicating preexisting group perceptions about their task (e.g., using it to portray their ideas about resilience), rather than deliberating about what could be gained from the contribution as a source of information about community resilience, or how it could inform the group's task (e.g., the development of the resilience strategy).

Presenting an alternative evaluation process. Although RBWG members extended their evaluation criteria to include the accuracy of contributions, members expressed an alternative evaluation process when considering contributions from the Boulder community solicited in response to the resilience strategy. In response to contributions about the resilience strategy that did not meet the criteria of public opinion, members presented a new evaluation process in their talk. In particular, when RBWG members were forced to consider how they should account for how they considered contributions, they described different evaluation practices than the public opinion evaluation framework that they had employed previously. Members' talk demonstrated their need to respond to contributions as part of their accountability to the Boulder community, as evidenced in the following excerpt, in which members produced a hypothetical answer to questions from the Boulder community about how contributions were considered and integrated into the resilience strategy. In members' depiction of their evaluation process, they crafted an alternative evaluation process for considering contributions:

389   Lilian: Well and I think, I think kind of what Darian is saying in terms trying to

390   identify some trends between the individual comments and the board's, and then

391   presenting that to the whole working group. And trying to have some

392   community and at least some internal buy-in on what actually makes it into the

393   document is a really important step. But, if what my experience with this

394   project so far has been (laughter) holds true to the end, I think that there's a few

395   people who are very vocal who will say, specifically, "Where is mine?"

396   Phil: Right. Okay.

397   Lilian: And then that's what, I think you can avoid some of that by how you

398   write the memo in the first place in terms of saying, "We identify trends, and we

399   took into consideration everything, that this was reviewed by 20 people that

400   have been working on this for a while, and we all agree that these three things

401   popped out multiple times" or something. (Several people agree). Or five

402   things, whatever it is. Because they're, I mean, it cuts both ways. If it's just a

403   one-off comment, it's just a one-off comment.

       (May 2016, 389–403)

Because of the relationship between RBWG and the Boulder community, RBWG

members anticipated that community members would question what contributions were

incorporated into the resilience strategy. To address those concerns, Lilian suggested that

RBWG members write a memo that described how the group evaluated contributions through the

"[identification] of trends, and [taking] into consideration everything" (398–399) by all RBWG

members who "have been working on this for a while" (399–400) and came to an "[agreement]

that these three things popped out multiple times" (400–401). In response to Lilian's suggestion,

the other members present at the meeting nodded their head or voiced agreement. Although the

message relieved concerns of the Boulder community, members' acceptance of Lilian's

evaluation process pointed to their acknowledgment that their actual means of evaluating

contributions from the community, which were dismissed and not discussed based on the criteria

of public opinion, would be deemed by the Boulder community as an unacceptable means of

evaluation. Expressing an alternative way to message the evaluation, simultaneously, revealed a

process of evaluating contributions from public engagement, in that (a) each individual

contribution was considered; (b) based on that consideration, trends across the contributions

were identified; and (c) those trends were reviewed by 20 city government resilience experts,

who agreed which trends should be implemented in the resilience strategy. The evaluation

process that RBWG members described to account to the Boulder community for the group's

decisions, thus, revealed an *expressed* evaluation process, because RBWG members' talk

described the process but did not use that process to evaluate contributions. However, by

identifying the process, RBWG members acknowledged the existence of an alternative way to

evaluate contributions solicited during public engagement events.

Attempts to enact the expressed evaluation process. RBWG members also evaluated

contributions from boards and commissions that responded to the resilience strategy, with that

evaluation engaging aspects of the expressed form of processing contributions from public

engagement that Lilian suggested as a response to the Boulder community (noted above).

RBWG members' talk was a response to tensions about contributions from the Boulder

community, as evidenced in RBWG members' categorization of individual community members

who made up those boards and commissions. This move allowed members to engage in an

evaluation of contributions from boards and commissions without having to use the same techniques employed to evaluate contributions from the Boulder community.

RBWG members' evaluative processing recognized the task-related value of contributions from boards and commissions. Employing the evaluation schema of valid public opinion, boards' and commissions' contributions could have been dismissed easily for being too small of a sample and comprised of Boulder community members who could not contribute accurately to resilience issues. However, using the first step in the expressed evaluation process (e.g., each individual contribution being considered), RBWG members recognized the value of contributions from boards and commissions as assisting their task of developing Boulder's resilience strategy. The shift from considering contributions based on evaluation criteria for valid public opinion to considering them individually acknowledged that an alternative evaluation approach could lead to different notions of value (e.g., as opposed to the value of understanding majority opinions within a group)—specifically, with regard to how contributions could inform the group's task.

Informing RBWG's task. RBWG members discussed how contributions from boards and commissions could inform the resilience strategy. Members presented contributions in relation to specific actions that could be employed in development of the resilience strategy (e.g., how they might inform the strategy); these actions ranged from including more images of people in the resilience strategy to describing the process of how the resilience action areas featured in the resilience strategy were selected. Additionally, RBWG members' talk often described contributions that made suggestions about how to make changes or assist in making changes. In particular, members discussed whether the group should respond to a comment from a particular board about editing the written strategy. Specifically, after Phil questioned whether the group

would change the introduction of the resilience strategy, Nathaniel responded, "Yeah, absolutely" (313) and that the "[board member] who brought that up . . . I think [she is] going to help [us] write it" (315–316). The following excerpt shows how RBWG members discussed contributions in relation to how they might inform the resilience strategy task:

310   Phil: Another comment, Nathaniel, that I'm kind of curious if [we] are

311   going to address or not from the board meeting about um, how the

312   history of Boulder is framed from a White perspective.

313   Nathaniel: Oh that was [another board]. Yeah, absolutely.

314   Phil: So, [we're] going to change the introduction?

315   Nathaniel: And the um, [board member] who brought that up, I think

316   [she is] going to help [us] write it.

317   Phil: Cool, very cool.

(May 2016, 310–317)

RBWG members discussed the contribution not only in terms of suggested changes to the introduction but also by considering its individual components that included more than the change requested; in this case, a board member offering to help RBWG rewrite the introduction. Members' discussion of contributions represented the first component of the public engagement evaluation process: considering each individual contribution.

RBWG members also demonstrated the second component of the expressed evaluation process: identifying trends across contributions. Members proposed trends by observing similarity across contributions and comparing them, to identify trends across them that were not evident immediately. An example of similarity included Kyle's statement in May 2016, "The other thing that I heard in a lot of them, they wanted to know what they, what their- what they

could do in the process. Like, what was their part?" (181–182). Alternatively, Lilian and

Nathaniel identified a trend in contributions that responded to the strategy by considering how

ideas were conveyed, including both the privileged perspective with which it was written and the

way that the strategy quantified ideas:

194   Lilian: Uh, I only saw three of them, presented at two of them. [One

195   of the boards] was very quick, I mean they had like zero feedback

196   outside of the fact that they felt like our wording and how we

197   describe it as a group here was um, sounded privileged. And that we

198   should think about how we're phrasing these things and maybe try to

199   personalize them a little bit more.

200   Nathaniel: Mmhmm

201   Lilian: And that was kind of, I guess, reflected in [a commission].

202   But the [commission] was more down to nuts and bolts. Like the

203   [commission] wanted to suggest ways to quantify things differently.

204   Nathaniel: Yeah, and that's going to be, that's an actual

205   implementation piece (.) so, it's a good comment.

206   Lilian: And I don't, you know, I don't, hmm, all three of them were

207   so different in their response, but, generally, the response was that it

208   was good, right?

209   Nathaniel: Yeah, I think overall it was pretty positive. The two that

210   were the most substantive from my perspective were the [board]

211   comment about our framing and our historical context, which was

212   just awesome. And the second was, um, [the commission] had more,

213   I think, meaty type of reorientation of a couple of things. Things that

214   we should be drawing in, rather than things to exclude.

(May 2016, 194–214)

RBWG members identified trends in the May 2016 excerpt above when Lilian positioned a comment in which members of a commission (201) "wanted to suggest ways to quantify things differently" (202–203), with contributions provided by members of one of the boards (194–195). In response to Lilian's comparison of the commission and one of the boards, Nathaniel refined the relationship between the two contributions by describing the "nuts and bolts" (202) approach to comments from the commission (201) as focused on a changeable element of the strategy, "Yeah, and that's going to be, that's an actual implementation piece (.) so, it's a good comment," (204-205). A resolution also was suggested by board a member to "think about how [RBWG was] phrasing these things and maybe try to personalize them a little bit more" (198–199), although the contribution was interpreted by Lilian as a broad comment with a vague resolution. Additionally, the change suggested from the board was specific to the introduction and included a plan to rewrite the text, to make it more inclusive of diverse perspectives (e.g., working with a research professional to change the language, as indicated previously). Finally, Nathaniel's depiction of contributions received from members of the commission pointed to the "meaty type of reorientation of a couple of things" (213). Even when comparing contributions between boards and commissions, RBWG members aligned them with trends, as represented in Nathaniel's statement, "Things that we should be drawing in, rather than things to exclude" (211), in which he compared contributions that sought refinement of text in the resilience strategy with those that sought to exclude parts of the resilience strategy.

Furthermore, a June 2016 meeting revealed that group members also enacted the third

component of the expressed evaluation process: having a group of resilience experts review the

trends and agree on which trends should be implemented in the resilience strategy. Trends found

across contributions identified by a subgroup of RBWG members during the May 2016 meeting

were presented to the larger group of members for their review. Nathaniel presented the trends

identified previously within the May 2016 meeting, which was attended by only six members, to

the larger group of RBWG members during the June 2016 meeting. In the following excerpt,

Nathaniel introduced the contributions by positioning one of the trends, and other members then

identified specific actions that could be made in response:

42   Nathaniel: We need to really focus more of the imagery around

43   people helping people rather than as many of the absolutely beautiful

44   landscape shots that we have. So that's something to consider. I feel

45   like that's not fully warranted criticism but that's something to think

46   about.

47   Mark: Do you need help?

48   Charlie: We got a bunch from open space. It's about having quality

49   photos; that's the issue, but we do have some still.

50   Mal: We might have some. Jacob had some, people helping people

51   from the flood.

(June 2016, lines 42–51)

In this example, RBWG members discussed a trend that was found in feedback received from

boards and commissions that more images of "people helping people" (43) should be included in

the resilience strategy. Although Nathaniel's statements (42–46) displayed conflicted feelings

about the feedback trend, RBWG members moved to respond to Nathaniel with talk that offered means of responding to the feedback. By responding to the feedback, members indicated their intention to implement the trend that was found across responses to the resilience strategy. Members' talk that considered and responded to the trends, thus, displayed the third component of the expressed evaluation process.

Contributions from the Boulder community. RBWG members' use of the expressed evaluation process when considering contributions from boards and commissions was starkly different from their processing of contributions from the Boulder community. When members' talk later positioned contributions of boards and commissions as Boulder community contributions, that move can be interpreted as aligning strategically contributions from the two groups to support how RBWG members wanted to be seen as processing contributions received from the Boulder community. By positioning people on boards and commissions as having membership in the Boulder community, RBWG members maintained their previous evaluation (e.g., dismissal) of contributions from the Boulder community, and still produced a response that addressed specific changes in the resilience strategy that resulted from contributions from Boulder community members—in this case, from board and commission members.

Evidence of RBWG's desire to maintain the evaluative framework used for Boulder community contributions and, yet, use the expressed evaluation process to consider contributions from boards and commissions was evident in comments made by Pat in a May 2016 meeting, after depicting initially Boulder community contributions as being, potentially, irrelevant. As Pat said, "The reality of it is, is that um, there are some good things in here. They do sync up really well with what we've heard in the boards and commissions" (101–102). Pat's comment suggested that the value of Boulder community contributions could be found in their similarity to

those obtained from boards and commissions; hence, it was only when those contributions were paired that the Boulder community contributions were described as having "some good things in here" (101).

Alternatively, when RBWG members' distinguished contributions from boards and commissions as being different than those from the larger Boulder community, they enacted elements of the expressed evaluation process to determine those contribution's value. In the following excerpt, Nathaniel launched into a report of contributions received from a board:

141   Nathaniel: So, I have a couple of things that I recall being really, kind of, on

142   point. Um, but, they are- (.) I'm going to try to pull up your notes to see if

143   they fit my recollection from the board. Um, so one comment we saw I think

144   pretty consistently is actually about the look and feel of it, which was, that it

145   was, it looked good, but it was either too exclusive, you know, it didn't

146   really represent, kind of, the broad youth of community. And that it was

147   very, like, promotional.

148   Phil: Yeah, lots of that.

149   Nathaniel: That it was selling our vision.

150   Phil: Yeah. The thing that was most consistent to me throughout was that it

151   was said that you have this end point and that these are the actions, but the

152   process of how you reach those actions was not represented in the document.

153   Nathaniel: Right

(May 2016, 141–153)

Immediately after this exchange, RBWG members began evaluating contributions from boards and commissions following the expressed evaluation process. As described previously, first,

they introduced contributions from solicited boards or commissions as suggestions for the resilience strategy rather than evaluating them as predictable responses based on characterizations of the group that were held previously. Second, as other members responded, they referenced similar contributions provided by other boards and commissions, to develop trends across contributions. These two characteristics of the evaluation process point to members' enactment of the first two steps—identification of trends and consideration of all contributions—of the evaluation process that they used to answer the Boulder community's concerns about how solicited contributions were considered.

RBWG members' enactment of the first two steps of the expressed evaluation process, thus, presented a shift in how contributions were evaluated, but also it revealed a shift in how members viewed their value. When members drew from a public opinion evaluation framework to consider contributions from the Boulder community, they were evaluated based on criteria that defined valid public opinion in terms of the whether responses were accurate representations of the population, weighted proportionally to mirror the population, and significant statistically. However, when members employed practices of the expressed evaluation process, contributions were evaluated for how they might inform the group's task. The different evaluation practices used by RBWG members also illustrated how such evaluation frameworks can be incongruent with different types of contributions, which was especially evident when members used criteria for valid public opinion that aligned with responses collected through survey questionnaires to evaluate open-ended responses that were solicited during public engagement events.

City Council

In talking about contributions from City Council, RBWG members drew from a framework that revealed institutional influence over their talk in two ways: in members' talk that

focused on future solicitations of suggestions from the Council and that responded to the Council's suggestions rather than processed those suggestions. Members' talk also revealed a tension between the institutional framework used to process contributions and RBWG members' task to enact resilience thinking as they developed the resilience strategy. As members talked about the Council's contributions, they also attempted to restrict the Council's role, and, subsequently, the type of contributions provided by Council, in ways that were in conflict with RBWG members' goal of enacting resilience thinking as they accomplished their task.

Solicitation and response. RBWG members processed contributions from City Council through talking about future solicitation of responses and crafting responses to contributions received. By framing talk about contributions in these ways, members demonstrated their use of institutional frameworks for processing contributions (e.g., meeting organizational expectations that were inherent to RBWG's role as a city government working group). The requirement that city government working groups' must request feedback from the Council, and address any of its concerns and suggestions, affected how RBWG members considered contributions from this group. As a result of their institutional requirements to solicit and respond to the Council, when members discussed contributions, they did not consider their content in relation to their task; instead, members focused on strategies for future solicitation of contributions or moved to crafting a response to the Council. Such talk reflected members' reliance on organizational guidelines for how to process contributions from the Council.

Evaluating the solicitation. RBWG members discussed contributions from City Council by reflecting on their methods of solicitation, including how members presented information about their tasks and how they should solicit contributions in the future from the Council. By evaluating solicitation of contributions rather than actual contributions received from the

Council, members demonstrated that those contributions were solicited based on an institutional

mandate (e.g., municipal working groups are required to solicit and respond to feedback, and to

solicit funding, from the Council), as opposed to being part of RBWG's tasks. This focus on

solicitation was visible in members' talk that assessed contributions based on how the Council

responded to their solicitation. For example, in February 2016, RBWG members discussed a

contribution from the Council that criticized the overview of the resilience strategy for being

hard to understand. Members discussed how RBWG's task was presented to the Council rather

than the Council's contributions that responded to that task; hence, members emphasized

solicitation of contributions as being responsible for the content of contributions received. The

following excerpt began after a question was posed to RBWG members regarding if they had

any reactions to the Council's contributions:

15   Lilian: I think overall, it went really well. I thought they struggled with

16   the overview of the document. Umm, they really struggled with how the

17   seven areas are going to be tangible outcomes or what that really meant.

18   And I thought that (.) I didn't read the packet before, so.

19   Peter: Neither did they.

20   Lilian: And I didn't know how much of those three programs are really

21   in there but just from the discussion, it was so quickly, it was so quick.

22   And, I found myself saying "Okay, hit on exactly what we are doing

23   with Trimble." It wasn't until [we] were kind of poked by "How does

24   that really relate to resilience?" Then [we] brought up urban heat island

25   analysis, emerald ash borer analysis, and kinda (unclear talk)

26 development management plan, and I thought then they started kind of

27 connecting the dots, which I thought then they- I was a little, I left last

28 night thinking that I'm a little concerned that we don't have an

29 additional check-in.

30 Dominic: Nice job on the presentation and exercise overall. I think it

31 just highlighted again the need for them to get some tangible examples

32 for them when it comes to resilience. They aren't good with abstracts.

33 The members who were there last time said that, the new ones that were

34 there said that. They just continue to struggle with that side of it.

35 Sidney: Ditto

  (February 2016, lines 15–35)

RBWG members, thus, processed contributions by evaluating how they were solicited. Responding to Nathaniel's request for reactions to contributions, Lilian referenced the Council's struggle with the overview of the resilience strategy; specifically, with how the "seven areas are going to be tangible outcomes" (17). Lilian evaluated the solicitation when she framed the issues that were presented by the Council as being about how RWBG presented the information to the Council. Dominic added to this framing by stating, "It just highlighted again the need for them to get some tangible examples for them when it comes to resilience" (30–32). Furthermore, Dominic's characterization of the Council as not "good with abstracts" (32) evaluated RBWG members' presentation of their tasks, such that it led to the suggestion that future solicitations should include tangible examples.

  In April 2016, RBWG members' continued this framing of contributions as a problem of how RBWG members solicited them, when Stefanie suggested:

502   It still feels to me like, we have a need to balance, or, I shouldn't say, "we

503   have a need." But, I keep hearing the same things from Council in

504   February (.) just, they always want to be able to hold it in their hand. They

505   still want that, and they still feel like they're much closer to it, but they're

506   not there yet. So, I guess, if we can't give that to them, we need to figure

507   out a good way to explain why we can't do that. Or if we have a good way

508   to explain, like, we're just explaining that it's not fully baked, we need to

509   somehow communicate that in a way that they find acceptable.

(April 2016, 502–509)

Similar to Lilian's and Dominic's depictions of the contribution, Stefanie considered criticisms

from the Council through the lens of evaluating RBWG members' solicitation of it. RBWG

members' evaluation that the Council's criticisms were a result of how the contribution was

solicited was made clear through Stefanie's comment that RBWG members "need to somehow

communicate that in a way that they find acceptable" (508–509). Instead of considering the

Council's comments as contributions to RBWG's task, members considered them in the context

of how they should present their task to the Council.

RBWG members' solicitation-focused frame reflected the organizational framework that

guided members' consideration of contributions. By focusing on solicitation, RBWG members

drew from institutional expectations that required them to present their progress to the Council.

Additionally, members revealed that their presentations were about translating their work to the

Council, as stated by Dominic in February 2016 regarding the Council's need for "tangible

examples" (30), which mirrored Stefanie's comments in April 2016 about providing Council

members with something to "hold it in their hand" (504). By attending to the Council's needs,

RBWG members' talk focused on solicitation of contributions to translate effectively RBWG's progress and tasks, and not on the substance of those contributions.

   The inherent value of contributions from the City Council. RBWG members' focus on responding to the Council also was symptomatic of the institutional framework that they used to process contributions. That institutional framework defined all Council contributions as having inherent value, an understanding that was evidenced in RBWG members' talk that portrayed those contributions as requiring responses. Additionally, their talk revealed that members perceived Council contributions as questions about their tasks, and, in response, they emphasized "closing the loop" (July 2015, 473–474) by responding to those contributions. Discussions among RBWG members also emphasized strategies for responding to those contributions.

   RBWG members' talk about responding to the Council reflected an organizational mindset that they had to address those contributions. Members enacted an institutional schema when processing contributions, even when the Council's contributions did not align directly with RBWG's tasks or with the objective of the solicitation. For example, in September 2015, a City Council member suggested that RBWG members should create a scenario-planning exercise to help the Boulder community to understand resilience. At the time of the comment, however, RBWG had requested contributions from the Council on two matters: RBWG members' progress across seven city government projects that aligned with the resilience focus areas selected previously and an outline of the resilience strategy. RBWG's tasks, at the time, focused on enacting resilience thinking in city government and development of the resilience strategy, a public-facing yet municipal-focused document that depicted city government resilience projects and future directions. Despite the disconnect between the scenario-planning exercise and RBWG's pressing tasks, members created the "Big Sort" public engagement exercise and piloted

it with the Council during the next solicitation of contributions, in March 2016. By addressing

the Council's suggested exercise, RBWG members prioritized the creation of the activity, even

though it had no immediate function within RBWG's tasks.

As demonstrated through RBWG members' desire to "close the loop," their talk showed

that they valued adherence to institutional guidelines (e.g., responding to contributions) more

than consideration of the substance of the Council's contributions. In the following excerpt,

RBWG members expressed their desire to respond to a Council contribution that portrayed

uncertainty about RBWG members' tasks. Members described responding to a Council question

that "left it a little open" (474):

459   Carmen: And we should call the Council question a little bit, too, because

460   when we went to the, you know, which before this, um, but what we did

461   present to them didn't resonate that well with them. So, we probably, at

462   some point here, need to think about what that looks like, [Jorge], to make

463   sure they're aware of what the thinking is now, and what the next steps

464   are.

465   Jorge: Um hmm.

466   Carmen: So I don't know where that fits in or how, but I definitely want to

467   make sure we close the loop with them, eh, 'cause we don't, we don't

468   have it, any

469   Nathaniel: The next, the next date with them on resilience, explicitly, is in

470   October.

471   Jorge: That feels too late. And it may be

472   Dominic: I wonder if (indistinct), yeah.

473   Carmen: For something. I just don't wanna forget about closing that loop,

474   because I think we left it a little open at the last meeting. Do you think?

475   Jorge: Yeah, we did.

476   Carmen: Okay.

(July 2015, lines 459–476)

Carmen's comments represented two facets of RBWG members' enactment of the institutional

schema as they considered contributions: Council contributions must be answered and members'

responses should offer answers to suggestions made in the contributions. Carmen pointed out

explicitly that the Council's contributions could not be left unanswered through her comments

that RBWG members needed to "close the loop" (467) because they "left it a little open at the

last meeting" (474). Members' emphasis, thus, was on influencing the Council's perspective by

responding to contributions offered rather than evaluating them per se. The goal of influencing

the Council, thus, was another core component of the institutional schema that framed how

RBWG members' talked about contributions.

        RBWG members' emphasis on influencing the Council's perspective also was evidenced

in their discussion of specific strategies to use when responding to those contributions (e.g., what

to include in their responses). RBWG members discussed crafting responses, including telling a

story that the Council could follow, responding to the Council's questions, and including or

leaving out specific information to "hold the line" with the Council (July 2015, 954). In the

following excerpt, RBWG members used various response strategies when constructing jointly a

response to the Council's contribution:

921   Carmen: Uh huh. This is what we submitted to=

922   Jorge: Right.

923   Carmen: =Rockefeller, duh, duh, duh. We've, after the last study

924   session=

925   Jorge: Um hmm.

926   Carmen: =Council had asked us to do a little more work on=

927   Jorge: Um hmm.

928   Carmen: =in working with, partners- I don't know, you gotta tell

929   [Council] stories=

930   Jorge: Right.

931   Carmen: =how we got from the=

932   Jorge: Yeah.

933   Carmen: =study session to here.

934   Jorge: Tell the story, and in addition to that document, which, they

935   won't read, [maybe] something like this=

936   Carmen: Yeah, so they understand.

937   Jorge: =that has less information on it, but is visually helpful for them to

938   understand what are the projects they are working on. (.)

939   Carmen: And I think under cert- That probably needs a bit of, um,

940   thought as to what's the relevant [outcome] to Council=

941   Jorge: Yeah.

942

943   Carmen: =so that it- They see how it intersects with, um, the work plan

944   that they have, and it doesn't look like an additional work plan item

945   outside of=

946   Jorge: Absolutely.

947   Carmen: =what they were expecting.

948   Jorge: Yeah.

949   Carmen: 'Cause we're trying to hold the line with them as much as we

950   can.

        Jorge: Yeah.

        (July 2015, lines 921–950)

As RBWG members discussed a response to the Council, they relied on their previous

experiences of considering Council contributions; specifically, members framed those

contributions such that they did not question the value of the response but, instead, focused on

crafting an appropriate response to influence the Council's perspective of RBWG's tasks. In the

above excerpt, Carmen and Jorge indicated that strategies they were presenting were based not

only on a framework for how to respond appropriately to the Council's contributions but, also on

ways of responding to influence the Council's perception of RBWG's task. Explicitly, Jorge

commented on responding to Council members with an information packet that included the

Preliminary Resilience Assessment, "which, they won't read" (934–935), and adding a table that

would be "visually helpful" (937). Carmen suggested adherence to organizational goals in

RBWG's response to Council members, when she explained a particular strategy for

representing RBWG's projects as "trying to hold the line with them as much as we can" (948–

949). Carmen was referring to another goal that was held within the institutional schema that

city government working group tasks should be perceived as staying within the terms of the city government work plan that is approved each year by the Council.

RBWG members' talk about responding to the Council revealed that members did not process the contributions and, instead, enacted institutional schemas. At the same time, that talk revealed that a tension between RBWG members' use of institutional schema and their task to enact resilience thinking. This tension, described as "the heartburn" (October 2015, 305), is explored in the next section.

The heartburn. RBWG members' talk about solicitation of, and responses to, contributions from the Council revealed a noticeable gap in which contributions were not processed with regard to RBWG members' task of developing the resilience strategy through resilience thinking. This gap revealed a tension between using an institutional schema and RBWG's main goal of enacting a resilience-thinking process as members accomplished their tasks. Members' use of an institutional schema to consider the Council's contributions was a symptom of this tension, and it resulted in what Nathaniel described as "the heartburn" (October 2015, 305), or the need for RBWG members to come up with something for the Council to respond to that would not disrupt the resilience-thinking process at the center of RBWG's work.

RBWG members' talk about solicitation and response were symptoms of "the heartburn," (305) because, as enactments of the institutional schema, they showed how members focused on maintaining traditional goals of city government. When members processed contributions, they did so by considering how their task fit institutional norms (e.g., discussing solicitation of or response to contributions), rather than what they could learn from contributions in light of their task of developing the resilience strategy through a resilience-thinking process (e.g., how the Council's feedback might inform RBWG members' development of the resilience strategy).

Considering contributions from the Council through the institutional schema made RBWG members accountable to different organizational goals than their goal of enacting a resilience-thinking process. RBWG's accountability to organizational goals rather than to the resilience-thinking process was demonstrated when members responded to a contribution from Council that asked RBWG to develop an outreach tool (e.g., "The Big Sort," discussed in October 2015). Alternatively, RBWG members could have considered how the contribution might have informed the development of the resilience strategy. For example, instead of responding only to the contribution, members could have sought to understand the underlying reasoning for the contribution, and what might be learned from the comment and, potentially, applied to the resilience strategy (e.g., integrating different ways of explaining the process of resilience thinking in the strategy document, to engage groups that might be struggling to understand the concept of "resilience" or the process of resilience thinking).

Another example of RBWG members' talk that adhered to the institutional schema included discussions from February 2016 and April 2016, when they examined better ways to solicit contributions from the Council rather than attempts to understand the Council's contributions. These examples demonstrated a preference for satisfying the institutional mandate of obtaining feedback from the Council rather than processing contributions in ways that could inform how members might develop Boulder's resilience strategy. To deal with the tension between the institutional framework and their goal of enacting resilience thinking as they accomplished their task, members considered Council contributions only in light of their inherent institutional value rather than with regard to how they contributed to development of their task, the latter of which would have aligned with enacting resilience thinking.

The lack of considering contributions through a resilience-thinking process was problematic because it siloed the Council's contributions, such that RBWG members considered them only as part of maintaining the city government institutional structures governing the working group rather than as part of their task. Isolating those contributions worked against RBWG's ability to enact resilience thinking; although the group considered contributions from the Council, they discussed them with regard to institutional expectations, rather than in terms of how they might inform their task, which would have aligned with a resilience-thinking process.

RBWG members' isolation of Council's contributions from RBWG's task was evidenced in the following excerpt, in which Nathaniel addressed "the heartburn" (305) explicitly and implicitly when he described positively the Council's contributions as being "right on the money" (308). Nathaniel's evaluation was about contributions' alignment with institutional assumptions about working group tasks, not about their value in the process of resilience thinking. Nathaniel's depiction of "the heartburn" in the Council's contributions reflected the tension that RBWG members experienced from both soliciting and considering contributions from the Council regarding the progress of their resilience-thinking task:

299   Nathaniel: We did send around, um, a portion of the memo that went to

300   Council and, and was really the core of our discussion. Um, [we] got

301   some very excellent feedback on it. Um, actually less on this but on, on

302   another topic that we'll, um, come back to in a second, but did- I know

303   [we] sent it around late, but did anyone get a chance to take a look at it

304   and have any thoughts of comments about what this looks like so far, um?

305   (.) This, this was the heartburn. Coming up with something for Council to

306   actually respond to without, um, committing too far down the road or

307   being too explicit, and, of course, the, the two chief criticisms or critiques,

308   and these are right on the money, is just that it still feels very amorphous,

309   it's very ambiguous and nothing- I, you know, they don't feel like they

310   have anything to, to bite onto with this, um, recognize that. And, of

311   course, that the, um, the public engagement is, more-or-less, lacking, and

312   that's something we need to address. But, um, there wasn't any

313   substantive concern. The, uh, the one substance piece that was, there were

314   two important substance pieces that were brought up. Um, one was that,

315   what this seems to lack was really a frame for what we're trying to be

316   resilient against=

317   Dominic: Mmmm.

318   Nathaniel: =or to, um, and that scenario-based planning or engagement

319   with the community might help as an engagement technique but also elicit

320   some of those, um, you know, real resilience challenges, be a little bit

321   more explicit than fire, flood, climate change. And those are, those are

322   valid comments.

        (October 2015, 298–322)

Nathaniel's discussion referenced several issues that were core to soliciting contributions

from the Council about the group's enactment of resilience thinking. First, he described the

Council's contribution that RBWG's task "feels very amorphous" (308), "very ambiguous"

(309), and "they feel like they don't have anything to, to bite onto" (309–310) as being "right on

the money" (308). Nathaniel continued to draw on the institutional framework, by saying that

these comments were "chief criticisms or critiques" (307) from the Council, and that RBWG members must respond accordingly, when he stated, "that's something we need to address" (312). However, in this example, the Council's comments were interpreted not as part of the group's task to seek out contributions from nongroup others to inform the development the resilience strategy but, instead, as part of solicitation of feedback and required response that were central to institutional expectations for city government working group tasks. Although Nathaniel recognized the Council's contributions as criticism that RBWG members needed to address, the only time that he acknowledged the Council's contributions with regard to the group's development of the resilience strategy was when he reported that "there wasn't any substantive concern" (312–313) to the group's progress on the strategy. Nathaniel's comments about the Council's contributions, including "two important substance pieces that were brought up" (314), revealed collectively the broader tension at the core of RBWG members' talk about the Council's contributions: Members' siloing of contributions to deal with the dual influence of institutional structures and the resilience-thinking process created a barrier to integrating those contributions into RBWG's resilience-thinking process. RBWG members' talk, thus, revealed adherence to institutional expectations for soliciting and responding to the Council's feedback, which created a barrier in how members considered that feedback as part of their resilience-thinking process.

Not only did RBWG members' talk about the Council's contributions adhere to an institutional framework that positioned those contributions as being different from RBWG's resilience-thinking process but there was evidence that institutional expectations for soliciting Council's feedback created barriers to integrating contributions received into the group's resilience-thinking process. In particular, a key institutional expectation of city government

working groups is that groups identify a problem and seek its solution. In the excerpt above,

Nathaniel described two contributions from the Council as being "valid" (322), but he evaluated

them in relation to a core belief of the institutional framework to seek solutions to known

problems, with those contributions demonstrating a desire to understand relevant and identifiable

problems to which RBWG's tasks could serve as solutions. For example, the first contribution

that Nathaniel described as being "valid" (322) was that RBWG "seems to lack . . . a frame for

what we're trying to be resilient against" (315–316). This point illuminated the underlying

frame in which the Council's contributions were based: the identification of a problem. Without

a problem, RBWG's tasks appeared "ambiguous" (309) and "amorphous" (308) to the Council.

The second contribution[2] was the suggestion that a "scenario-based planning or engagement with

the community might help as an engagement technique but also elicit some of those, um, you

know, real resilience challenges" (318–320). This point also relied on the Council's need to

understand the problem—the "real resilience challenges" (320). Although Nathaniel deemed

these two contributions to be "valid" (322), their validity was related to RBWG members'

expectation of what would be required of them from an institutional perspective (e.g., requesting

members to identify the problem within their frame for understanding city government work).

Despite being valid in that sense, contributions served as barriers because members focused on

their institutional validity (e.g., that it was a valid concern within the institutional belief that

problems be identified and solutions produced in response) rather than whether they were valid

in the sense of informing group members' task to develop the resilience strategy.

RBWG members' talk about "the heartburn" also pointed to the Council's contributions,

as well as their solicitation and responses to them, as hindrances to RBWG's resilience-thinking

task. As Nathaniel stated earlier in the discussion, members' challenge was to avoid

"committing too far down the road or being too explicit" (306–307), despite institutional

expectations to have tangible representations of their progress (as described previously by

Dominic in February 2016 and by Stefanie in April 2016.) Nathaniel discussed commitment to

projects and specificity about plans as being challenging. The challenge of committing to

specific projects and being explicit about solutions to those projects was in relation to the

group's development of the resilience strategy through the process of resilience thinking,

because commitment to a particular idea suggested that the problem was well defined and that

the goal of the task was to locate specific solutions. Specificity regarding concrete plans was in

line with traditional problem-solving frameworks used in city government and contrary to

RBWG's process of resilience thinking, which was sought out by the City of Boulder as a

procedure that could help municipal departments to enact proactive decision making rather than

being reactive to problems needing solutions (e.g., as discussed in Gallucci, 2013).

Furthermore, the organizational mandate that required RBWG members to solicit

contributions from the Council created barriers and distractions to, instead, of supporting,

RBWG's process of resilience thinking. Solicitation of contributions is important to resilience-

thinking processes when they provide diverse perspectives that benefit the systems, such as when

they make a system aware of unrealized risks. However, Nathaniel's comment that the Council's

contribution had no "substantive concern" (313) about RBWG's task, the resilience strategy,

revealed that members interpreted that contribution within the institutional framework and not as

part of the process of resilience thinking. Nathaniel went on to explain that soliciting

contributions from the Council was required. As shown in the excerpt below, Nathaniel

insinuated that RBWG members had to come up with something to give the Council that was

outside of their process, when he stated:

330   The, but nothing, I mean, I, just to be clear, none of this was locked in.

331   They needed something that seemed reasonable. Um, you know the, the

332   integration, alignment, sustaining kind of philosophy is really what we've

333   been working from, from the beginning, is we're not looking to do a

334   completely standalone type of effort, that this is really trying to infuse

335   resilience at the most basic level in the functioning of government and

336   then, sort of, community ethos. And, I'm just trying to find a way to

337   articulate it [to Council].

(October 2015, 330–337)

In stating that the group created something "that seemed reasonable" (331) for the Council,

Nathaniel alluded to a distinction made by RBWG members when considering the Council's

contributions: Members saw institutional tasks and tasks affiliated with resilience thinking as

separate, which affected their processing of the Council's contributions as resources for their

task. Nathaniel's statement, "just to be clear, none of this is locked in" (330), also revealed the

separation between solicitation of contributions from the Council and RBWG's task of "trying to

infuse resilience at the most basic level in the functioning of government" (334–335).

    Compartmentalizing the City Council's role. As stated earlier, RBWG's members

dealt with the tension created from acquiring and processing contributions from the City Council

by compartmentalizing them as an institutional requirement rather than evaluating them based on

their ability to assist in their tasks. Members' responses worked within the institutional model,

which created barriers to integrating Council's contributions into their process of resilience

thinking. Despite operating within the institutional framework for working groups, members

attempted to change how the Council perceived RBWG's tasks, by redefining how the Council

considered RBWG's tasks and the Council's role, including types of contributions that the Council provided.

First, RBWG members attempted to change how the Council defined the group's task, by shifting the Council's notion of "resilience" from a disaster-preparedness perspective to resilience thinking as a process within the city's longterm planning efforts. RBWG members' talk revealed attempts to influence how the Council understood resilience and to present the concept as a longterm approach. As Dominic asked in May 2015, "How do we, maybe, guide Council . . . [to think about resilience] in a way that's more far reaching and has a longer term scope?" (172–173). Dominic connected this understanding of resilience to RBWG's tasks, suggesting, "maybe there's another element to how we can [position] each one of these to address our needs 15, 20 years into the future, in terms of being a resilient community, as opposed to addressing the needs just of now" (174–177). Although Dominic still processed the Council's contributions by considering how to solicit contributions differently in the future, he also attempted to redefine the Council's conception of the resilience task as solving problems not yet imagined, and not just as a concrete solution to known problems. This is an important distinction, because it attempted to resolve the Council's frame that city government efforts should be pursuing actively solutions to known problems, by redefining RBWG's task of resilience thinking not as a solution but as a means to a solution.

Redefining resilience as a process rather than as a solution also redefined the Council's role, not as a judge or arbiter of solutions but as being active in the process of resilience thinking. RBWG members attempted to redefine the Council's conception of their resilience-thinking process by portraying relationships between their current tasks and future projects throughout city government. In the following excerpt, RBWG members attempted to redefine the Council's

conception of their work by pointing out the breadth and complexity of enacting the process of

resilience thinking:

101   Stefanie: I'm wondering since there was some confusion about resilience, first,

102   versus impacts not mitigation, and also confusion about how this relates to

103   disaster preparedness, would it be helpful to make a list of things that

104   definitely should be under the umbrella of resilience and, like, actions which

105   that are definitely not under that umbrella? And, like, these could be concrete

106   programs that we are talking about, or not necessarily even programs that we

107   already have but could exist.

108   Fred: Yeah, that goes a little bit back to HR&A was trying to do between, this

109   is resilience, this is sustainability and diagrams. And, we can think about

110   populating that with all of the existing programs

111   Charlie: I like the way you are framing that, too. That seems like doubling

112   down on the complexity of it. Versus just saying that some of these are taking

113   a scalpel approach to things we've already done well, right? It's just setting a

114   tone for things we should continue to look at, but we are doing a lot of things

115   right. So what we'll be improving is what we are going to do. It's kind of

116   breaking down, how's the right way to say it, "inflate the balloon." ((laughs))

117   They don't feel like we have to do this to solve the fire and flood problems

118   because it's not that at all. We are already doing a lot of things right.

    (February 2016, 101–118)

In this excerpt, Stefanie introduced a way of presenting RBWG's tasks that, initially, was

conceived as working within the current model of responding to the Council's contributions by

creating better solicitation of contributions. Fred acknowledged this line of thought through his

suggestion that RBWG already had portrayed these connections through a diagram that was

created by HR&A. However, Charlie's response indicated a reframing of how the Council was

conceptualizing resilience, such that, instead of defining it through the lens of city government

work that had been completed already, RBWG members needed to help the Council define it as a

process (e.g., of resilience thinking). Charlie illustrated the two definitions and the shift needed

by comparing a "scalpel approach to things we've already done well" (113) with resilience

thinking as "a tone" (113–114) that focused on "improving" (115) mechanisms that lead to

problem and solution identification. Redefining the Council's definition of resilience was

critical, because it relied on a reality in which reactive solutions to emergent problems, such as

fire and flood, were inadequate. As Charlie said, "We are doing a lot of things right" (118) and,

consequently, the Council should not define resilience thinking as identifying improvements to

known problems and solutions; instead, the Council needed to adapt a conception of RBWG's

enactment of resilience thinking as reinvention of the process for identifying both problems and

solutions; in other words, the Council's conception of resilience should shift from improvements

of known solutions to seeing RBWG's role as "improving" (115) current processes.

Redefinition of the City Council's perception of RBWG's task of resilience thinking also

meant that the Council's role, as part of the process, needed refinement. However, when RBWG

members attempted to redefine the Council's role, they returned to the traditional institutional

frame and relied on preexisting notions of the Council's role. Within the institutional

framework, members described the Council's role as oversight of working groups, which

directed issues on which RBWG should focus (March 2015). This depiction resulted in

members' treatment of the Council's contributions as having inherent value, and that members

must respond to them. Alternatively, enacting resilience thinking required the Council to engage

a role that was different from providing contributions that city government working groups were

required institutionally to address; instead, a resilience-thinking process required members to

conceive of the Council's role as capacity building, and Council's contributions as part of

building resilience in city government.

However, instead of perceiving the Council as part of RBWG's process of resilience

thinking, members maintained their treatment of Council's contributions as being separate from

the resilience-thinking process, and discussed changes to the Council's role that distanced the

group from RBWG's resilience-thinking task. In June 2016, members expressed concern that

the Council's contributions might slow the development of the resilience strategy if Council

continued the role of providing strategy direction to the document. Dominic's comments below

indicated members' position on redefining how Council members understood their role, and

types of contributions that were needed from Council. In particular, Dominic employed an

institutional frame when he defined the resilience strategy as "a summary piece" (95) and the

Council's role as a "formality" (97):

93   It would be helpful to communicate the role of that strategy document,

94   where actions taking place, or actions already taking place, in some ways

95   the role of document is more of a summary piece or something that conveys

96   in one place that things, things are happening under a singular banner. If

97   they understand it that way and their role of improving it is more formality

98   than substantial policy direction, that that might take pressure off it, doesn't

99   have to be all, end all. Managing expectation around that.

(February 2016, 93–99)

Dominic comments suggested that the Council's role be changed to "more formality than substantial policy direction" (97–98), and he positioned the Council as providing contributions that were task-related changes to the strategy document rather than about directions of the strategy.

Despite a desire to shift the institutional framework that portrayed their task as a solution rather than as a means to a solution, RBWG members' talk revealed that frame still was maintained as they considered the Council's role. In discussing strategies to help the Council better understand their task, members maintained the barrier between the Council and their task, by presenting a new role for the Council that limited its role in their enactment of resilience thinking. This portrayal of the Council as a formality was an expression of the barrier that RBWG members created when they siloed the Council's contributions as being distinct from their resilience-thinking task.

Conclusion

As portrayed in RBWG members' talk about contributions solicited from other groups, members used three frameworks to process contributions obtained from the Boulder community, boards and commissions, and the City Council. First, when discussing the Boulder community, members employed evaluation schemata based on criteria for valid public opinion that were in line with evaluating contributions solicited through survey questionnaires. Using a schemata drawn from valid public opinion led RBWG members to dismiss contributions based on criteria that did not match when Boulder community contributions were solicited during public engagement events. At the same time, when developing a response to the Boulder community's input, RBWG members presented a different picture of how they considered contributions

through their expressed evaluation process. Members attempted to enact the expressed

evaluation process when considering Boulder community contributions; however, they did so

only when considering contributions from boards and commissions.

A third framework for processing contributions was demonstrated in RBWG members'

talk about feedback received from the City Council that employed an institutional framework,

which led them to focus only on future solicitation of contributions from the Council and

responses to Council's suggestions, rather than on evaluating those contributions. RBWG

members' talk that accepted contributions without processing them was accompanied by

discussion of "the heartburn" (October 2015, 305), which revealed a tension between

organizational structures of city government informing RBWG members' processing of the

Council's contributions and their task to enact resilience thinking. Ultimately, RBWG members'

use of an institutional framework to process contributions from the Council inhibited their ability

to enact resilience thinking.

In the next chapter, I discuss these findings in relation to their contributions to the bona

fide group perspective, information processing and decision making, and intergroup scholarship.

I focus particularly on how RBWG members positioned themselves in their talk in relation to

groups that they solicited for contributions. I also discuss how the study's findings promote a

better understanding of group members' tendencies to control group boundaries, and the extent

to which group members seek to control their dependencies on their environment and other

groups. I then turn to resilience thinking as a process that task groups can consider to attend to

how contributions might inform their task, and I develop a process model for groups that focuses

on aligning group members' talk with the resilience-thinking process.

Chapter 4 Notes

[1]100RC describes sudden events that destabilize a city and affect that city's ability to respond as a shock; alternatively, a stress is an ongoing issue that, over time, affects the stability of a city.

[2]RBWG responded to this second contribution by creating the scenario-planning exercise, "The Big Sort," as discussed earlier, which distracted RBWG members from their task of enacting resilience thinking in city government.

CHAPTER 5

DISCUSSION

As a longitudinal investigation of the talk of a natural, small group in the public sector that worked on a resilience-thinking task, this study builds on research that has employed the bona fide group perspective (BFGP) and it adds to the growing investigation, including by communication scholars, of resilience. This chapter discusses how findings from this investigation contribute to the study of natural groups, and it offers practical applications for how group members can process information, perspectives, and experiences that differ from theirs. Before exploring those directions, however, I discuss the significance of the study's empirical analysis of group members' talk about contributions offered by members of other groups.

First, access to the closed-door meetings of a group of public administrators and their talk about contributions solicited from members of other groups provided a unique examination of a public administration working group. Through observation, transcription, and analysis of this rarely documented type of group, this study extends understanding of the talk of members of such groups. Additionally, the focus on that talk over a 2-year span makes it one of the few BFGP studies of governmental groups that has been conducted over a relatively long period of time. BFGP studies rarely have studied meetings of groups in the public sector that are not open to the public, and only a few studies (e.g., Buchalter, 2003; Tracy & Standerfer, 2003) have observed a naturally occurring civic or municipal group beyond a year's time. In one of the few BFGP studies of public sector group members' talk that occurred privately (e.g., at a meeting to which the public was not invited) over an extended period of time, Meyers et al. (2010) analyzed jurors' talk as they deliberated a penalty decision in a criminal trial. Although, typically, judges limit or prohibit public access to jury deliberations, the transcript of this jury's deliberation was

made available publically. Hence, the present investigation provides a significant addition to the study of groups in the public sector because it both focused on a municipal group to which access is restricted and studied that group over an extended period of time.

Additionally, the focus in this study on group members' talk, and, specifically, their talk about contributions solicited from and provided by members of other, relevant groups, expands BFGP scholarship beyond the majority of studies, which have relied on participant observation and/or interviews. Despite Putnam and Stohl's (1990) argument that group members' interactions are a vital part of the holistic study of natural groups within their interdependent contexts, which include other groups, BFGP studies have focused on group processes (e.g., decision making) rather than on members' talk that constitutes those group processes, and those studies have employed methodological procedures that did not collect and analyze members' interactions (with the exceptions of Meyers et al., 2010; Tracy & Standerfer, 2003). The methodologies employed in BFGP studies have included interviews and focus groups conducted with group members (e.g., Buchalter, 2003; Oetzel & Robbins, 2003; Petronio et al., 2003; Sherblom, 2003), or written reflections of group meetings by a facilitator who was a nonresearch team member and not a member of the group being studied (Yep et al., 2003). Both of those methodological procedures rely on members' or facilitators' reflections about group functioning rather than capturing or documenting group members' interactions at the utterance level, which the current study did. Through the analysis of such fine-grade data (e.g., members' verbatim comments), this study captured interactions among group members that processed contributions solicited from and offered by members of other groups.

Because of the unique focus on group members' talk about contributions from members of other groups and the methodological procedures employed, this study led to some important

findings. The remainder of this chapter focuses, first, on conceptual/theoretical implications of

group members' talk making group boundaries impermeable, which, in turn, makes difficult a

group's viability to enact *resilience thinking*, a process focused on embracing change and

identifying new possibilities (see, e.g., Walker & Salt, 2006). With regard to the BFGP, the

study demonstrated the ease with which this bona fide group closed itself off from outside

influences and ideas, attempting to become a container. Additionally, this study contributes to

scholarship on resilience by showing that, despite the group being mandated by its funder to

make its boundaries permeable and for members to recognize their connectedness with other

groups, in response to ideas that were in conflict with group members' ideas, members shut the

group's boundaries and attempted to be self-sufficient, which, in turn, fundamentally, affected

adversely their ability to enact resilience thinking.

        After discussing the study's conceptual/theoretical contributions, I offer

recommendations for this and other public administration groups regarding best practices that

members can employ when considering contributions provided by members of other groups.

That discussion is followed by an examination of limitations that characterized this study,

followed by suggestions for future research directions. I conclude the chapter with an overview

of my future application of the study's findings, including my future work with this and other

groups.

Theoretical Findings and Implications

        This section focuses, first, on the finding that, through members' talk, bona fide groups

can close themselves off to others in their relevant contexts, making certain group tasks difficult

to accomplish. In response to that potential behavior, I suggest that group members should

reframe information processing from an evaluation-oriented process to one that focuses on

learning and identification of opportunities related to the group's tasks. For the group at the

center of this study, members' talk that closed the group's boundaries created barriers to

accomplishing the group's task of resilience thinking. In particular, members' talk went against

the openness, learning, and diversity that are required to think resiliently. The second part of this

section considers communicative practices that group members could have employed to engage

in resilience thinking. In particular, I offer a process model of resilience thinking that could

promote the viability of bona fide groups over a longitudinal period of time.

Members' Talk can Close Borders, even when Borders are mandated to be Open

The first major finding stemming from this study is the ease with which the bona fide

group that was studied, despite being mandated to have permeable boundaries and to be

interdependent with its contexts, attempted to become a container. Other BFGP studies (e.g.,

Alexander et al., 2003; Buchalter, 2003) have observed natural groups attempting to make their

boundaries impermeable, but the reverse was the case in this study. Hence, this study adds to

BFGP literature by presenting a particularly paradoxical phenomenon in which members' talk

closed off the group to others, despite a mandate from the group's funder, the 100 Resilient

Cities (RC) initiative, stipulating that the group have open borders. Resilient Boulder Working

Group (RBWG) members enacted a container model of groups through their talk practices;

specifically, in talking about contributions that they had solicited and received from members of

other groups. This study, thus, extends BFGP literature by understanding how members' talk

isolated this bona fide group from other groups, even when mandated practices attempted to

make the group's boundaries permeable. This is an important finding for the BFGP, not only

because information-processing and decision-making research (e.g., Hirokawa & Scheerhorn,

1986; Janis, 1972; Propp & Julian, 1994) has suggested that poor group decision making is

linked to faulty information-processing practices but also because the act of closing group

borders can be very detrimental to group performance (see, e.g., Ancona, 1990).

This study also suggests that the mandate of intergroup interaction that characterized this

bona fide group, which was required to solicit contributions from other groups, can be

undermined through members' talk. That finding aligns with intergroup studies that have shown

the stigma attached to outgroups has deep-rooted effects on ingroup members' actions. This

finding means that group members must take proactive approaches to eliminate bias when

processing contributions received from those who are considered to be members of outgroups.

RBWG, for example, was required to solicit contributions from various nongroup members as a

feature of its participation in the 100RC; however, RBWG's talk demonstrated that members

struggled to consider implications of contributions solicited, leading to those contributions being

dismissed prematurely or ignored.

The premature evaluation of contributions by RBWG members can be understood as a

faulty information-processing practice, because those contributions were considered only in light

of whether they fit members' preexisting frames for contributions from groups solicited. As

evidenced, for instance, in RBWG members' discussion of contributions from the Boulder

community, those contributions were evaluated with respect to whether they met criteria

associated with "valid public opinion," regardless of whether they (e.g., contributions received

during *public engagement events*, involve a relatively small number of individuals who meet in a

setting that is open to everyone) met the definition of *public opinion*, views held by a majority of

citizens. According to Dryzek (2010), public engagement events, such as face-to-face

deliberations, are designed to achieve an end goal of *meta-consensus*, participants' agreement on

the legitimacy of competing values, arguments, and judgments, that structure future discussion of

that group and within the system that the group is embedded (Dryzek, 2010). In these events, participants' consensus is not the desired outcome; deliberation events are designed to acknowledge multiple, coexisting, and competing values, arguments, and judgments that structure a group's discussion of an issue. Alternatively, some solicitations (e.g., questionnaires in which respondents select an answer from a list of provided options) are designed to produce majority viewpoints among a statistically salient and demographically representative population of participants, in line with RBWG's criteria for valid public opinion. Differences between these two types of solicited contributions lead to incongruence when public engagement contributions are analyzed using valid public opinion criteria.

The example of public deliberation, a type of public engagement event used by RBWG to solicit contributions, draws attention to types of contributions that were produced through RBWG's solicitation of responses via survey questionnaires and public engagement events. RBWG members' talk evaluated contributions upon first consideration with respect to their ability to point to a consensus or to represent a demographic within the Boulder community. RBWG members, thus, evaluated contributions prematurely based on their similarity to contributions solicited previously from the Boulder community (e.g., RBWG members inquired about the statistical significance of those contributions and demographic distribution of responses, and members compared the February 2015 resilience questionnaire with the annual community questionnaire), to build a consensus of common ideas and values across the obtained information. In light of Dryzek's (2010) notion of meta-consensus, prior to evaluating those contributions, group members should have considered all of the perspectives presented in contributions to understand the landscape of perspectives that was held by members of other groups. Additionally, when contributions were not compatible with public opinion criteria,

RBWG members dismissed those contributions. Instead of evaluating contributions based on public opinion criteria, RBWG members should have recognized that contributions solicited from public engagement events are different, and, consequently, oriented their talk to highlight underlying values found in those contributions (e.g., preparedness or community involvement) that informed perspectives (e.g., resilience projects should focus on disaster relief or that city decision-making processes lack transparency) of members of other groups.

To avoid evaluation of contributions (e.g., determining the values of contributions) prior to considering values embedded in them, group members need to enact communicative practices that reframe consideration of contributions as part of a larger process related to their task. Specifically, considering contributions should be reframed as a "knowledge-building process" rather than as an evaluation process. Reframing information processing as knowledge building aligns with design-thinking practices (Brown, 2009), which, in this case, would assert that when group members gain knowledge about others' experiences, and, specifically, about a task's stakeholders, the group completes its tasks more effectively (e.g., designers create innovations that address successfully community concerns). Later in this section, I offer specific recommendations for how group members should discuss such contributions, prior to evaluating them, to gain an understanding of perspectives offered by nongroup members. Before moving to those recommendations, however, I discuss why isolation should be avoided and why boundary permeability is advantageous for groups.

Isolation is Problematic for Bona Fide Groups

The phenomenon of a bona fide group seeking to limit the permeability of its boundaries, make its borders static rather than dynamic, and, therefore, attempt to establish itself as independent from its intergroup context, is not unique to the group studied. What is learned from

this study of the RBWG, however, is how easily a bona fide group can isolate itself, enacting a

container model, despite mandated group practices (e.g., to solicit contributions from other

groups) that are meant to promote intergroup interaction. Such isolation is problematic for bona

fide groups because it can affect the completion of their tasks, perpetuate negative stereotypes of

outgroups, and lead to a decline in group vitality (Putnam & Stohl, 2010).

This study showed that as RBWG members talked about contributions solicited from

others, they were negotiating their group borders and the RBWG's role within the intergroup

system of which it was a component. Members' talk attempted to close the group's borders,

which, in turn, isolated the group from the influence of other groups and contexts. The finding

that this group closed itself off from other groups and became a container differs from BFGP

studies that have documented how easily group borders demonstrate openness. For example,

Conquergood (1994) described relationships between members of the same gang, in which

boundaries and borders were changing constantly as members renegotiated and re-altered their

identities in response to interactions with members of other gangs. In Conquergood's study,

groups were dissolved and reconstituted with ease, similar to the dissolution and reconstitution of

Mount Everest climbing groups in the face of a disaster that Houston (2003) investigated.

Hence, whereas Conquergood's and Houston's studies revealed that groups were likely to be

open to other groups, RBWG members' talk isolated the group by decreasing the permeability of

its boundaries and seeking to make the group independent from groups that were solicited for

contributions.

In this study, RBWG members' talk also redefined the group's borders as it reduced the

group's boundary permeability and attempted to gain autonomy from other groups. Specifically,

members closed the group by not recognizing their multiple group memberships (e.g.,

membership in the Boulder community, which includes those who work in Boulder), including

membership in groups that were solicited for contributions. Members also did not recognize

those contributions as contributing to their group's tasks, which influenced the extent to which

the group allowed its task to be informed by the groups solicited. Despite soliciting and

collecting those contributions, RBWG members did not discuss insights gained from

contributions that were collected during three solicitation events (i.e., the April 2014 Workshop,

March 2015 100RC Asset Mapping and Risk Assessment Workshop, and February 2016

Deliberative Inquiry Session). Members' lack of discussing those contributions meant that

recommendations or perspectives embedded in them either were adopted without group

processing or dismissed without consideration, both of which are problematic practices that

affected the group's ability to complete its task.

The ease with which RBWG members closed themselves off from their intergroup

context also demonstrates how members' talk perpetuates stereotypes and stigma of nongroup

members (outgroups) that have been found in intergroup research (e.g., Bar-Tal, 1990; Bar-Tal

& Hammock, 2012; Oren & Bar-Tal, 2007). The perpetuation of outgroup stereotypes is

problematic for groups, such as the RBWG, whose tasks necessitate consideration of alternative

perspectives, because that practice limits members' abilities to understand fully diverse

perspectives that are necessary for effective completion of their tasks. In this study, when

RBWG members discussed contributions from other groups, they responded in ways that sought

to redefine RBWG's relationships with those groups, such that the influence of those groups on

RBWG's decisions was limited. For instance, when Boulder's City Council, a contributing

group, was deemed by RBWG members to be an unreliable source for contributions about how

to define resilience, RBWG members' talk sought to redefine the oversight that the Council had

on RBWG's task to produce Boulder's resilience strategy. In this example, RBWG members dismissed contributions from the Council as indicative of how the Council responded typically to abstract projects, by defining the group's process of developing the resilience strategy as difficult to explain through tangible examples and, therefore, abstract. Alternatively, RBWG members' talk should have attempted to make sense of the Council's confusion about resilience, leading group members, potentially, to understand the underlying value of problem solving that was embedded in the Council's perspective. Similarly, when RBWG members' talk focused on contributions from the Boulder community that criticized or challenged the RBWG (e.g., for not being transparent and attempting to deceive the Boulder community, or for focusing on areas that did not align with the community's concerns), members' talk privileged ingroup members' expertise, preferring RBWG members' experiences over contributions from community members. Evidence that RBWG members' talk privileged their perspectives over those provided by members of outside groups aligns with intergroup research findings that group members accept information that supports their views and dismiss information that goes against their views (e.g., Sedikides, 1997). Additionally, the finding that RBWG members' talk sought to open the group's boundaries when contributions were task related, aligning themselves with boards and commissions when members of those groups offered assistance that was consistent with RBWG members' predispositions toward the task, is in line with members' behaviors toward ingroups and outgroups (e.g., Harasty, 1997; Ostrom et al., 1993; Sedikides, 1997).

RBWG members' tendencies to engage in ingroup behaviors through their talk demonstrates the ease with which a bona fide group, mandated to be open to diverse perspectives, can create barriers to that openness. Although group boundary fluctuation is a tenant of the BFGP perspective, the tendency for this group to close its boundaries, despite

processes in place that promoted openness, points to members' talk as an important site where boundary permeability and intergroup contexts are constituted, shaped, and redefined. Stohl and Putnam (1994) argued that bona fide groups are characterized by "ambiguous and in flux" boundaries, and that the dynamic nature of group boundaries is tied to intergroup interactions that are "momentary and fleeting, seldom if ever coalescing into a stable entity" (p. 290). By observing group members' talk about contributions from other groups, this study revealed intergroup connections (e.g., represented through contributions from groups that comprised RBWG's larger context) that were less temporary and more tangible than those described by Stohl and Putnam (1994). In doing so, findings showed how easily problematic behaviors (e.g., groups isolating themselves from other groups) can occur, even when those groups are supposed to demonstrate openness (e.g., soliciting opinions, experiences, and perspectives from other groups).

Most important, however, findings from this study point to groups enacting openness or closedness through members' talk. First, when members' talk dismisses others' contributions and limits their influence on the group's tasks, members enact a container model of groups. Such isolation is problematic for bona fide groups (e.g., city government groups) seeking long-term vitality and viability within their intergroup system. Putnam and Stohl's (1990) review of network analysis research programs found that "isolated groups have a high probability of failure" (p. 254). Similarly, complete openness in bona fide groups also is problematic, as groups can lose their distinctiveness from other groups through dissolution of boundaries. Hence, if group members do not process effectively interactions with nongroup members, over time, the group tends to cease to exist. According to Putnam and Stohl (1990), "Individuals, groups, and larger social systems exist in a symbiotic relationship in which each contributes to

the other's development and survival" (p. 256). When group boundaries are closed, "members

feed on their own anxieties and fail to adapt to their environments" (Putnam & Stohl, 1990, p.

257); however, when group boundaries are "too porous, the group can become dominated by

outside groups" (Putnam & Stohl, 1990, p. 257). Intergroup relations, thus, inform members'

identity as a group regarding their tasks, control, and resources (Putnam & Stohl, 1990), with this

study expanding that notion beyond interaction with nongroup members to include how group

members process contributions provided by nongroup members.

Expanding the notion of interaction with nongroup members to include how group

members' process contributions from those nonmembers also offers insight into relationships

between groups within a given context. When RBWG members solicited contributions from

other groups, a system of interdependent groups became visible. Soliciting those contributions

did not make members of those other groups de facto members of RBWG but it did make visible

the role that those other groups had within environments in which RBWG was embedded.

RBWG was mandated to make its boundaries permeable to diverse perspectives of nonmembers,

and groups that were solicited were predetermined by the granting body (100RC) that

determined RBWG's task and by the institutional body of the City of Boulder government.

Although the institutional environments of 100RC and the City of Boulder indicated appropriate

relationships between RBWG members and nonmembers solicited, RBWG members' talk

determined the meaning, and potential influence, of those relationships. Members' talk

demonstrated that bona fide groups should have both open boundaries to other groups and

engage in talk that demonstrates receptivity to those groups' contributions.

Addressing the problematic nature of group members' talk that attempts to isolate the

group from its intergroup relations is important, not only because it can help groups to

accomplish their tasks but also because it supports the vitality of those groups over the long term. In the following section, I recommend that group members frame their consideration of contributions as part of a process of building knowledge. Framing such information processing as knowledge building redefines contributions as input that group members must study and from which they learn, rather than simply evaluate.

Reframing Information Processing as a Knowledge-building Process

The symbiotic relationship between intergroup relations and group identity means that when RBWG members' talk sought to isolate RBWG from its intergroup context, the group's ability to complete its task of enacting resilience thinking, which was dependent, by definition, on perspectives and experiences of other groups, was affected negatively. Although soliciting such contributions provided an opportunity to consider other groups' experiences, having such information available did not mean that members processed that information in ways that led to informed group decision making. When RBWG members discussed those contributions, they evaluated them based on a set of criteria derived from past experiences with public opinion data or with the particular group solicited. Group members' evaluative talk of those contributions was so pervasive that it created a barrier that inhibited members from processing those contributions in other ways (e.g., considering how they challenged current interpretations of resilience or how they informed a component of resilience that RBWG had not considered). According to Seibold and Krikorian (1997), evaluation is only one element of effective processing of information. For groups to make effective decisions, they must evaluate, interpret, and understand implications of relevant information.

Instead of engaging in evaluation practices as the first step to processing information that it obtained, RBWG members should have undertaken systematic study of the contributions,

employing appropriate procedures for making sense of all of the information that the group

received, including contributions from members of other groups, but also other relevant

information (e.g., historical data and trend projections on local environmental change). Evidence

that group members must interpret and learn as they process information to arrive at effective

decisions has been confirmed in the findings from information-processing and decision-making

literature that groups make poor decisions when members engage in faulty evaluations of

information, such as by ignoring minority viewpoints or dismissing information that contradicts

members' perspectives (see, e.g., Hirokawa, Erbert, & Hurst, 1996; Hirokawa & Scheerhorn,

1986; Janis & Mann, 1977; Propp & Julian, 1994). Groups, therefore, need to engage in

multistep processing of information, with evaluation of that information being the final step.

     Recommendations. When group members consider and talk about relevant information,

their task needs to be reframed from a singular task of evaluating that information to a

sensemaking process that equips them to make high-quality decisions related to their tasks.

Using a multistep sensemaking process, therefore, is recommended, with group members, first,

identifying themes across information that they have gathered and, then, evaluating that

information. As demonstrated by Propp and Julian (1994) and Hirokawa (1987), members of

groups that make high-quality decisions both examine information through clarifying and

elaborating on perspectives represented within it, and then evaluate that information through

questioning and seeking justification that the information is accurate.

     Research on group decision making has advocated for an evaluation approach to

information processing to enhance group performance (e.g., Gouran & Hirokawa, 1983; Propp,

1999). This evaluation approach argues that members should discuss whether information,

considered in light of the task, is valid (e.g., whether it is incomplete, flawed, or irrelevant). In

particular, Gouran and Hirokawa (1983) argued that members' discernment of the validity of

information was consequential to making effective group decisions. Evaluation of information is

part of what Gouran and Hirokawa described as the "skills, knowledge, and [stet] highly

developed sense of objectivity" (p. 174) that members need to make effective group decisions.

Gouran and Hirokawa also advanced a functional perspective that views group decision making

as being affected by three types of group members' communication: (a) *promotive

communication* that fosters decision making, (b) *disruptive communication* that creates barriers

to effective decision making, and (c) *counteractive communication* that neutralizes an act of

disruptive talk. According to Gouran and Hirokawa, group members employ these forms of

communication to evaluate information that then affects their decisions.

Similar to the functional perspective, Propp (1999) proposed a collective information-

processing (CIP) model that viewed group members' determination of the validity of information

as being the central tenet in making high-quality group decisions. Propp explained that CIP

involves subprocesses of gathering information, storing and retrieving information, and

weighting information to determine its importance on a group's decision. Propp posited that

CIP, when completed effectively, is a distillation process that creates a "refined information base

from which irrelevant or invalid information is eliminated" (p. 232). In line with findings by

Gouran and Hirokawa (1983) and Propp (1999), RBWG demonstrated that members' ability to

evaluate information is influential in their group decision making; however, RBWG members'

talk also showed that evaluation, alone, was not productive for enacting the group's task, as it led

to premature evaluation of the information that the group considered and a lack of learning about

perspectives presented in that information.

The current study also showed that when group members only evaluate information, they could miss important aspects of that information that, potentially, could inform in positive ways their task. This missed information is akin to what Gouran (1986) described as "inferential errors" in information processing. Gouran pointed out that, in considering information, groups may make incorrect *inferences*, defined as conclusions, assumptions, or observations about that information that inform negatively their decisions. When members' talk only evaluates information and does not examine it in other ways, as found in this study, group decisions also may be at risk for error. In response to this potential problem, I recommend that members enact a sensemaking information-processing model that positions relevant information as having inherent value to their groups' tasks. I, thus, propose an approach that builds on Gouran and Hirokawa's (1983) functional perspective and on Propp's (1999) CIP model, by focusing on how information processing can lead any member to learn about information to "draw correct inferences from the information he or she consults" (Gouran & Hirokawa, p. 174). A sensemaking approach argues that when members consider what values can be learned from perspectives embedded in information, the validity of that information becomes relative, as even incomplete, flawed, or seemingly irrelevant information can help group members to understand values associated with their tasks. For example, members of public health task group can learn from contributions provided by members of antivaccination groups by exploring values (e.g., freedom of choice, fear of the unknown, or protecting vulnerable populations) that are fundamental to antivaccinators' perspectives against childhood vaccination from, potentially, serious viruses.

As group members make sense of information that they consider, they build knowledge about contexts in which their tasks are embedded. Similar to Dryzek's (2010) argument that

public deliberation aims to produce meta-consensus about values, arguments, and judgments that are held by various groups regarding issues being discussed, sensemaking of information seeks to produce a meta-consensus about the landscape of values that are related to groups' tasks. To accomplish such sensemaking, at least three foundational assumptions must be adhered to when members process information: (a) they are seeking patterns to build knowledge about issues related to their tasks, (b) all information plays a role in building knowledge about their tasks, and (c) understanding diverse perspectives about their tasks leads to high-quality group performance.

The proposed sensemaking approach is informed by findings from this study that suggest groups should delay evaluating information until later in the discussion process, to neutralize members' tendency to dismiss prematurely information that differs from ingroup preferred perspectives. As shown in this study, in processing contributions from members of other groups, RBWG members evaluated contributions before establishing a common understanding of what that information could reveal about the issue being considered (e.g., types of projects that were important to community members) and how that information might inform the group's task (e.g., considering those types of projects when deciding which projects to focus on, when developing the resilience strategy). The knowledge-building approach is designed to lead group members talk to *synthesis*, bringing together various information to reveal its values and relationships, prior to evaluation of it. However, prior to synthesizing or evaluating information, as explained next, members must share among themselves contributions solicited from nongroup members.

Share information among group members. In this study, within the RBWG, members presented contributions obtained from members of other groups in ways that framed their subsequent talk about those contributions. Soliciting contributions from various groups of nongroup members using various solicitation methods (e.g., questionnaires, workshops, public

deliberation events, and/or City Council study sessions) meant that only small groups of RBWG

members had access to given sets of contributions. To make all RBWG members aware of

contributions received, they had to present them to other members during group meetings.

In sharing contributions with the group, members provided limited excerpts of the

information and perspectives obtained, and they marked contributions with specific values when

they presented them. For example, after RBWG members received contributions from City

Council members during a study session in October 2015, a RBWG member presented those

contributions to other group members. During that presentation, that member's talk included a

limited number of contributions received from the City Council, with each contribution prefaced

or followed by a value statement about it. The following, an excerpt from the October 2015

presentation of contributions from the City Council, provides an example of how that RBWG

member presented one of those contributions:

307	Pamela: . . . And, of course, the, the two chief criticisms or critiques,
308	and these are right on the money, is just that it still feels very
309	amorphous, it's very ambiguous and nothing- I, you know, they don't
310	feel like they have anything to, to bite onto with this, um, recognize
311	that. And, of course, that the, um, the public engagement is, more-or-
312	less, lacking, and that's something we need to address. But, um, there
313	wasn't any substantive concern. The, uh, the one substance piece that
314	was, there were two important substance pieces that were brought up.
315	Um, one was that, what this seems to lack was really a frame for what
316	we're trying to be resilient against.

317   Dominic: Mmmm.

318   Pamela: Or to, um, and that scenario-based planning or engagement

319   with the community might help as an engagement technique but also

320   elicit some of those, um, you know, real resilience challenges, be a little

321   bit more explicit than fire, flood, climate change. And those are, those

322   are valid comments.

(October 2015, 307–322)

This example portrays the presentation of contributions that included evaluative

statements about them, such as statements that contributions were "valid comments" (October

2015, 322) or that they were not of "substantive concern" (October 2015, 312–313). When

members introduced contributions and included those evaluative statements, they, thus, initiated

their evaluation of them. These discursive acts framed contributions as having particular values

related to the task (e.g., if they were useful or irrelevant), which affected how members'

subsequent talk processed them. Instead of engaging in that practice, presenting information

such that no value is placed on it aids in efforts to delay evaluating it.

Additionally, making all contributions known to all group members is important, as

evidenced in this study and as presented by Propp (1999) as part of CIP; however, in practice,

sometimes, doing so is a neglected part of group information processing. How group members'

talk about contributions solicited begins with how they are presented to other members to

process. The absence of information is detrimental to members' ability to build knowledge

about the issue landscape that is directing their task. Presenting all available information helps

members to understand the range of contributions and to identify common themes across those

contributions. Furthermore, although members may need to summarize findings when

presenting them when time is limited, they should consider if that practice is appropriate for the type of contributions presented. For example, contributions received through survey questionnaires retain the quality of the information when summarized (e.g., because questionnaire respondents select from limited options, the information is consistent across questionnaire responses), whereas contributions that express individual perspectives and experiences may lose meaning when they are summarized. With this point in mind, group members should be given access to all contributions received, especially in cases when summarizing information is necessary due to the volume of contributions. After presenting information, group members' talk should identify key themes that characterize information and, as discussed next, make connections across those themes.

Explore connections among contributions. The next step in the knowledge-building process is to make sense of contributions by positioning them in relation to each other. Discourse practices associated with making sense of contributions are similar to the analysis of issues in *deliberative inquiry* (DI), a learning process for addressing wicked problems that structures group members' interactions in ways that help them to identify and overcome obstacles and tensions that prohibit members' dialogue from moving the group forward on an issue, and to use resources (e.g., asking effective questions and gathering useful information) to improve the quality of a group's discourse about an issue (Carcasson & Sprain, 2016). As the first part of the DI process, deliberative issue analysis includes "researching issues, positions, and community voices" (Carcasson & Sprain, 2016, p. 13), to create a map of the issue, practices that also are found in the knowledge-building process. However, deliberative issue analysis is conducted to understand and develop deliberative frameworks related to particular issues. Alternatively, the knowledge-building process seeks to make sense of contributions as a means

of identifying issues; specifically, members should find connections across contributions and bring into focus underlying values that inform them. This practice will lead group members to build a list of issues presented across the information gathered, and to begin mapping conceptually foundational values that inform contributions that are solicited from other groups.

Construct an issue landscape. The first part of exploring connections among contributions is to build an issue landscape. To understand issues related to their task, group members must frame contributions as evidence of how other groups perceive the group's task. An issue landscape focuses on perspectives of those groups solicited for contributions, and it mirrors principles used by design-thinking practitioners (for examples of design-thinking approaches in groups, see Stanford University's d. school: dschool.stanford.edu or IDEO at ideo.com). *Design thinking* is a methodological and creative process that starts, in this case, with understanding experiences with issues that are central to the group's task from nongroup members who are from groups that are relevant to the design. This process positions nongroup members' experiences as fundamental to identifying problems effectively and producing solutions creatively (Brown, 2009). Exploring connections across contributions requires group members to ask questions about how the values embedded in contributions are related to one another rather than considering the value of those contributions. Hence, instead of RBWG members' talk questioning the ability of a contribution to speak on behalf of all members of the group solicited, RBWG members should have questioned how that contribution provided insight into how a phenomenon was experienced by the contributor of that information. This shift in questioning involves a reframing from understanding contributions as representative and generalizable to all members of a group, to understanding them as helping to shape task group members' understanding of how issues are experienced by particular others.

RBWG members' talk revealed that they assumed that contributions from others could be evaluated without considering what those contributions meant for their work. Group members, of course, must make sense of information through their talk. To assist members in considering all information in light of their task, I recommend that they create an issue landscape visually and discursively through members' talk. An *issue landscape* is a map that connects values embedded in contributions that, through the process of making all values known, can lead to the development of a meta-consensus of values related to group members' tasks.

Group communication facilitation procedures have focused on assisting groups in structuring discussions, analyzing problems and solutions, creating new ideas, and coming to agreements (Sunwolf & Seibold, 1999); however, they have not focused on helping group members to make sense of contributions solicited, through mapping values embedded in those contributions as a means of helping group members to learn from information. Despite the absence of group communication facilitation procedures aimed at creating a value-neutral issue landscape, four formal group processes within the categories of analyzing information and creating new ideas, found in the Function Impact Model that was posited by Sunwolf and Seibold (1999), have practices that group members can employ as they construct an issue landscape: interpretive structural modeling, cognitive mapping, role storming, and vigilant interaction processes (Hirokawa & Rost, 1992). These practices have qualities that group members can borrow as they construct an issue landscape (Sunwolf & Seibold).

First, interpretive structural modeling's emphasis on identifying relationships and imposing an order on complex relationships is a useful framework for group members to employ when constructing an issue landscape (Sunwolf & Seibold), although they must be careful to avoid too early in the process ordering information that relies on evaluation (e.g., by comparing

the importance of various types of information). Second, cognitive mapping also is a useful

process to consider, as the procedure advises group members to consider information as related

to and representing visually relationships among perspectives and issues holistically through

patterns. However, when using cognitive mapping, group members must be careful not to follow

the process's evaluation approach to visual representation that instructs members to place the

most important ideas in the center and the least important ideas along the perimeter. Third,

another key process that group members can employ is role storming, which, according to

Sunwolf and Seibold (1999), requires members to take on the role of those groups affected by

the group's task; for RBWG, these groups would include those solicited for contributions. By

taking on the role of solicited others during group meetings, members would be tasked with

articulating those others' viewpoints. The process is meant to bring others' voices into the

conversation to assist group members' understanding of nongroup members' perspectives.

Fourth, reflective thinking can lead group members to consider the issue landscape in which their

work is embedded. According to Sunwolf and Seibold (1999), reflective thinking draws on a set

of six preset questions (e.g., "What is the problem?" "What are the causes?" and "What are the

possible solutions?" p. 400). However, these preestablished questions are directed toward

identifying problems and causes, whereas sensemaking is directed toward identifying issues and

perspectives. Alternatively, group members could consider the following question to help them

learn from solicited contributions that they consider: "In what way did nongroup members

describe their perspectives related to the task in positive ways and in negative ways?" This

question can lead members to questions related to the landscape of another group's experiences

with a particular phenomenon, such as: "What does the contribution describe about solicited

group members' recent experiences with a particular phenomenon?" "What does the contribution

describe about how members of that group would like to experience the particular

phenomenon?" and "What values are expressed through the experiences described by the

solicited group members? (e.g., such as aspects of members' experience that are highlighted in

the contributions, and components of the experience that are desirable or undesirable to the

member).

Although group members may not be able to answer these questions fully depending on

the contributions provided, these questions represent a new frame for thinking about

contributions, by placing experiences of members of various groups solicited at the center of the

sensemaking process and promoting group members' ability to take actions that acknowledge

those diverse perspectives, experiences, and values. Even when perspectives from members of

various groups solicited are in conflict, the process of considering contributions based on values

embedded in them provides task group members with the ability to make better decisions. As

Gouran and Hirokawa (1983) and Gouran (1986) argued, members of high-performance groups

examine information critically, and their ability to do so relies on whether they can draw correct

inferences from the information being considered.

This sensemaking approach equips group members with the ability to make informed

decisions about others' contributions, by enabling a process of reflection on fundamental values

that inform others' perspectives on the group's task. Additionally, the act of acknowledging

conflicting values in perspectives received from others not only leads group members to be better

informed about their task but it also can legitimize decisions made by group members as part of

their task to others who were solicited for contributions. The reflective-thinking questions

encourage talk about contributions in ways that position them as having inherent informational

value that, intrinsically, is tied to experiences of those groups solicited for contributions.

Identify opportunities for accomplishing the group's task. Next, group members should

engage in discussion to identify key elements of the solicited group members' experience within

the issue landscape that reveal opportunities for accomplishing the group's task. Members

should determine, based on the group's sensemaking of contributions, what elements of

nongroup members' experiences might provide opportunities for task group members to respond

to or to innovate on, through their task. The process of identifying opportunities also is

influenced by design-thinking approaches to problem solving. IDEO.org (2015), the nonprofit

arm of the international design thinking firm IDEO (2017), for instance, advised that groups

should use knowledge that is produced from mapping experiences and issues to develop *insight*

statements, summaries of what can be learned from patterns or relationships between identified

issues found in contributions and the group's task. To develop insight statements, group

members should draw from patterns and relationships identified in their issue landscape-mapping

exercise. Insight statements also streamline members' discussions by concentrating on only

those contributions that are useful for the group's task. Essentially, drafting insight statements is

the enactment of members' evaluations of contributions. As members make judgments about

insight statements that will inform their work, they validate contributions, although the value of

those contributions is associated with the relevance of the contribution to the group's task rather

than whether other groups are knowledgeable about the group's task (e.g., evaluating whether the

Boulder community's perspective on resilience was relevant to RBWG's task of developing the

resilience strategy, as opposed to evaluating whether Boulder community members were experts

on resilience matters).

The process of identifying opportunities for accomplishing the group's task leads

members to analyze contributions based on criteria that are relevant to their task rather than

relying on members' evaluation of contributions using criteria that may not match the nature of contributions received. Sensemaking as a form of information processing, via group members' presentation of information, exploration of connections across values embedded in contributions, and identification of opportunities for accomplishing the group's task, leads members to transform knowledge gained from contributions into opportunities on which they can act (e.g., if contributions point to the value of developing civic skills in young people, group members might identify new opportunities for engaging school-aged children in civic education). Additionally, opportunities identified through sensemaking procedures are responses to contributions solicited and considered.

Framing evaluation of contributions as the identification of opportunities will lead groups to not only process contributions more effectively, compared to other approaches, but also to employ a systematic approach to respond to those contributions, which was identified as desirable by RBWG members, but not fulfilled in their talk. As identified in Chapter 4, RBWG members evaluated contributions from the Boulder community based on an understanding of "valid public opinion." When contributions did not meet expectations of generalizability and reliability that are associated with valid public opinion, members dismissed them without consideration of what they could help them to understand about community members' experiences with regard to resilience in Boulder. Alternatively, when RBWG members talked about how they would discuss their consideration of contributions, they described a systematic process that identified common themes and then responded to those themes, but that process was actualized only when members considered task-specific contributions (e.g., revisions to the resilience strategy). In RBWG members' talk about contributions solicited from other groups, it was clear that responsiveness to contributions was an important part of the group's

organizational obligation; however, in practice, responsiveness was discussed but not fulfilled through group members' talk. Taking a sensemaking approach to information processing, thus, provides group members with a way to actualize the ideal information-processing model that they suggested, and, specifically, to learn from contributions as they explore connections, evaluate them, and respond to them, through the identification of opportunities.

Employing a group communication consultant. When resources are available, groups should consider enlisting the assistance of a group communication consultant to guide members through the process of sensemaking, including presenting information, creating an issue landscape, and identifying opportunities for accomplishing group tasks. A group communication consultant, similar to a developmental facilitator (see, e.g., Schwartz, 1998; Sunwolf & Seibold, 1999), facilitates groups through processes initially and, simultaneously, helps members to develop processing skills, such that they can engage in group processes without the help of an outside practitioner. A group communication consultant tasked with leading group members through information-processing steps, which, often, are interconnected and fluid, provides an initial framework for members' talk that aligns with their desired process and that teaches them strategies to overcome their tendency in talk to close themselves off to other groups.

Communication consultants are especially important to groups that take on new processes for making sense of information, because they hold members accountable for following procedures that are in line with their goals. For example, consultants can promote avoidance of premature evaluation of nonmembers' contributions and are less likely to allow members to revert to "natural discussion," which, in the case of RBWG, led members to close themselves off by evaluating contributions too early. Poole (1991) found that group members enacting naturally occurring discussion moved prematurely to decisions, due to members' pressure to move quickly

through the decision-making process. Sunwolf and Seibold's (1999) review of studies

documenting natural group discussion pointed to five key difficulties: time pressures, group

members' social pressures to conform to majority views, reliance on members to manage internal

group conflicts, self-censorship that results from social pressures and conflicts, and issues with

"listening to and retaining relevant information offered by other members" (p. 398). Poole

(1991) also found that group members expressed challenges to attending fully to multiple ideas

simultaneously, which could be particularly problematic for groups processing contributions that

conflict with their views/preferences.

Because of problems associated with natural group discussion, scholars have

recommended that there be a group practitioner (e.g., group communication consultant or

facilitator) who identifies appropriate interventions among those discussed previously (see, e.g.,

Poole, 1991; Schultz, 1999; regarding types of interventions, see, e.g., Frey, 1995, 2006a,

2006b). Using external facilitators can improve group performance by observing group

behavior, providing feedback, diagnosing changes needed, and training members in formal

procedures that can help a group to achieve its goals (see, e.g., Schultz, 1999).

If a group communication consultant is not available, asking a nongroup member or even

a group member to lead the group through the procedures still may benefit groups that,

otherwise, might adopt problematic natural discussion techniques (Sunwolf & Seibold, 1999).

As demonstrated through facilitation procedures, such as devil's advocacy and role storming,

both of which assign roles to one or more group members, having a member adopt the facilitator

role could keep a group on task, although doing so might not negate completely members'

tendency to evaluate contributions prematurely or to attach values to them when they are

presented. Additionally, groups should be wary of using role-playing procedures to process

contributions, especially when those contributions represent a minority viewpoint, as such procedures have been found to be ineffective at ensuring the expression and, most important, full consideration of minority viewpoints (Alderton & Frey, 1983, 1986).

Implications of a Container Model

Addressing the tendency that RBWG members' talk attempted to close the group's borders, even when they were mandated to be kept open, is important for groups in municipal public administration, but it also is important when considering for-profit companies, nonprofit organizations, and even macrolevel "groups," such as nation-states. Although these groups can attempt to isolate themselves from intergroup relations, that move may cause detrimental consequences for both those groups and others. For example, nongroup members may counter a group's attempts to become a container through demonstrations of their disagreement with the group closing itself off to other groups. In the case of a legislative government entity, citizens may wield voting power over groups in which members are elected that close themselves off to stakeholders. As another example, consumers hold purchasing power that can affect the long-term viability of corporations (e.g., by boycotting products or services if they do not believe those corporations take their perspectives into account). Similarly, nonprofit organizations can lose their funding if granting bodies believe that they are not incorporating constituents' needs into their programs and services.

Additionally, groups attempting to enact a container model create not only the potential for negative consequences for themselves but also for groups outside their closed borders. Isolation can perpetuate injustice and provide opportunities for negative behaviors engaged in by other groups to flourish. Groups that remove themselves from environments and intergroup relationships within which they are embedded lose the ability to hold other groups accountable.

On a macrolevel, nation-states holding foreign policies of isolationism have created opportunities that perpetuate other nation-states' negative behaviors. In the extreme case that launched World War II, U.S. policies of isolationism perpetuated an international climate in which Nazi Germany and its collaborators gained power and propagated widespread injustice, including the systematic persecution of European Jews and many other groups, resulting in the murder of six million people (Bergen, 2003; Office of the Historian, 2017).

In these extreme cases and at the municipal level, this study sheds light on negative consequences of closed group borders across scale. On a global level, actions of isolationism have effects beyond their political policies, including social, economic, and environmental consequences. When group members seek to enact a container model, they deny the reality of their position in a larger intergroup system. Even on the scale of a small task group, studies have pointed to dire consequences of isolationism, evidenced in the extreme faulty group decision making found in BFGP research on supervisory groups at high levels of government, including those groups that, when closed off to diverse perspectives, made decisions that led, for instance, to the fatal Challenger Shuttle launch (Hirokawa, Gouran, & Martz, 1988; Hirokawa et al., 1996) and the Bay of Pigs invasion (Janis, 1972). Across scale and group contexts, closed boundaries are detrimental to both groups and others who are implicated by those groups' actions. In the following section, I turn to resilience thinking as a heuristic for groups seeking to overcome tendencies found in members' talk to close off groups from their environments and intergroup relations.

Resilience Thinking as Heuristic for Groups

The paradox found in a bona fide group attempting to close its borders and limit its dependence on other groups is especially intriguing because the group studied, RBWG, was

attempting to enact resilience thinking. As discussed previously, this study showed that in task

groups, members' talk must align with the group's task. For the group studied, the task of

enacting resilience thinking as it developed the resilience strategy required group members' talk

to align with characteristics of a resilience-thinking process. RBWG members' talk that closed

the group to others presented two key issues, both of which apply to this group, and one that

applies to groups, in general: (a) as members developed the resilience strategy, RBWG's talk

created barriers to the group's task of enacting resilience thinking; and (b) closed groups fail to

thrive, and survive, over the long term.

First, this study found that RBWG members' talk created barriers that inhibited the

group's ability to achieve its task. Instead of engaging in talk that resulted in this outcome,

members should have enacted group practices that promoted resilience thinking in their talk.

However, for groups attempting to enact resilience-thinking approaches, there is a dearth of

resources for how to operationalize the process in groups, and, with regard to resilience-thinking

guidelines that are available, none focus on group members' talk (e.g., 100RC, 2015; Resilience

Alliance, 2010). Moreover, although scholars (e.g., Buzzanell, 2010; Goldstein, 2012;

McGreavy, 2015; Ozawa, 2012; Pezzullo, 2014) have considered resilience as a communication

construction, they have not focused on how members' talk should promote resilience thinking in

task groups.

Second, barriers created by members' talk that inhibited RBWG's ability to develop

Boulder's resilience strategy through resilience thinking could be detrimental to the long-term

viability of the group. This point is explained through systems theory, which speaks to the

critical role that a system's components play in determining its ends (Luhmann, 1995). The

BFGP has long considered groups to be social systems, which means that components of a task

group influence, for instance, that group's ability to complete its goals (Putnam & Stohl, 1996). If a group's components—in this case, group members' talk—create barriers to the group's ability to complete its goals, the group is not effective, which, in some scenarios, could lead to the demise of the group. Interestingly, resilience thinking, the process attempted by the group studied, was designed as a method to increase the viability and effectiveness of systems over the long term (Walker & Salt, 2006). Resilience thinking also was designed as a process for task groups (e.g., groups focused on the adaptive management of environmental resources) seeking to overcome barriers affecting the group's task and to create new mitigation options. By pointing to the critical nature of members' talk on group tasks, the findings from the study extend understandings of resilience thinking in groups, by showing that members' talk must align with characteristics of a resilience-thinking process for groups to enact that process. In response to the lack of attention to members' talk in current resilience-thinking guidelines (e.g., 100RC, 2017; Resilience Alliance, 2010; Walker & Salt, 2006), later in this section, I suggest a resilience-thinking process that includes group practices that are designed to align members' talk with goals of the process, to operationalize group resilience thinking. The model draws from strategies that are employed by practitioners in the fields of design thinking (Buchanan, 1992; IDEO, 2017; Kimball, 2011; Kimball, 2012; Stanford University, 2017), as well as from group communication processes used in task groups (Delbecq & Van de Ven, 1971; Sunwolf & Seibold, 1999), as these tools can help group members to align their talk to principles of resilience thinking and promote information processing in groups that centers on learning from solicited information and locating opportunities for transformation. Before proposing a resilience-thinking process model for groups, I discuss, next, implications of this study with regard to systems theory and resilience.

Systems, survival, and resilience. Although not all task groups are designed to sustain

themselves for a long period of time (e.g., groups created to solve a specific and time-limited

problem), most task groups desire some level of *resilience,* the ability to "absorb disturbance and

still retain its basic function and structure" (Walker & Salt, 2006, p. 1). Resilience thinking was

conceived originally as a process that helped groups working in ecological management to find

new possibilities for conserving natural resources, as opposed to responding constantly to

emergent environmental problems (Walker & Salt, 2006). Before presenting recommendations

for communicative practices that RWBG members should have employed to engage in resilience

thinking, I discuss why resilience thinking provides a useful heuristic for bona fide task groups

by looking at characteristics that define resilience in systems and that are important for bona fide

task groups.

First, issues found in the task group that were presented in this study are illustrated

through systems theory, which views social systems as being comprised of, and influenced by,

each of its parts (Luhmann, 1995). Additionally, systems theory argues that systems cease to

exist when they isolate themselves completely from their environments (see, e.g., Bausch, 2001;

Luhmann, 1995). A system may be selective in its openness, but complete closure will lead to

the death of that system because it will become unable to renew itself (Luhmann, 1995). Other

theoretical perspectives influenced by systems theory, including complex adaptive systems

(CAS; see, e.g., Levin, 1999; Vervoort, Kok, van Lammeren, & Veldkamp, 2010), also point to

the importance of openness between systems within various domains. In CAS, a system's

connectedness to other systems within a given domain is central to the viability of that system.

Taking a CAS perspective, Vervoort et al. claimed that connecting "different sources of expertise

to a dialogue . . . [leads to] a better chance that traps can be avoided" (p. 607), despite the

challenge found when group members cling to majority viewpoints and create barriers to considering others' perspectives. Scholarship on systems theory and CAS has suggested that group members' talk that closes a bona fide group off to others is detrimental to the long-term survival of that group (see, e.g., Bausch, 2001; Levin, 1999, Luhmann, 1995; Vervoort et al., 2010).

Similar to CAS, the systems approach informing the social-ecological resilience perspective also focuses on a system's openness as a means to enhance *adaptive capacity*, the ability of a system to survive despite facing adversity (see, e.g., Folke et al., 2010; Holling & Gunderson, 2002). According to Walker, Holling, Carpenter, and Kinzig (2004), resilience is distinct from "resistance"; instead of closing itself off from a challenge, resilient systems absorb the challenge and still maintain fundamental aspects of their identity. Additionally, resilient systems are open, adaptive, and foster connectivity and learning through feedback loops (Folke et al., 2010).

Although research on resilience originated from an ecological systems approach, scholars focused on social systems have adopted the concept of "resilience" (see, e.g., Norris et al. 2008; Zautra, Hall, & Murray, 2008). The notion of resilience within social systems also is useful for bona fide groups, such as city governments, that seek to not only sustain themselves over the long-term but also to engage in forward-thinking planning efforts. Those groups can benefit from adoption of characteristics of resilient systems, discussed next, although such adoption must move beyond current attempts to operationalize resilience thinking, to include group processes that guide and engage members' talk in resilience-thinking practices.

Key facets of resilient systems. Resilient systems exhibit distinct characteristics, including diversity, learning, and connectivity, that promote their capacity to adapt and

overcome disruption. To enhance resilience characteristics within systems, Walker and Salt

(2006) conceptualized a resilience thinking process that social systems could enact to promote

resilience.

First, resilient systems embrace diversity, learning, and connectivity to enhance their

adaptive capacity, or their ability to change, such that they absorb disruptions and still maintain

core features of their identity (see, e.g., Carpenter & Brock, 2008; Walker et al., 2004).

Diversity, or openness to ideas, voices, knowledge, and response options, manifests through the

availability of various ideas, varying perspectives, and a range of roles within a system (see, e.g.,

Stockholm Resilience Centre, 2014; Walker et al., 2004). A resilient system also fosters learning

through *feedback loops*, or opportunities to gather information, observe external conditions, and

assess problem scenarios that lead to the adaptation or transformation of a system (Folke et al.,

2010). Resilient systems undergo opportunities for learning as part of embracing changes to the

system. Finally, connectivity must be present for a system to be characterized as resilient (see,

e.g., Cumming et al., 2005). Connectivity is the open flow and availability of information, ideas,

and resources across a system's components, to foster and support decision making or

production.

Second, social systems that model resilience characteristics also rely on their adaptive

capacity as those systems progress and meet challenges similar to the adaptive cycle that is found

in ecological systems. Scholars have posited that the adaptive cycle found in ecological systems

can be used as a metaphor for understanding the process of resilience thinking (e.g., Resilience

Alliance, 2010; Walker & Salt, 2006; Westley, Zimmerman, & Patton, 2007). Just as ecological

systems go through phases of rapid growth, conservation of resources, release of resources, and

reorganization, practices of resilient social systems also embody these dynamic conditions.

According to the Resilience Alliance (2010), social system processes depict both a system's vulnerability and "its capacity to respond as it moves through different phases of change" (p. 7); in other words, resilient systems constantly are managing their vulnerability and adaptive capacity as part of the resilience process.

Although resilience thinking stems largely from an understanding of resilience that is informed by the social-ecological systems (SES) perspective, which conceptualizes qualities that a resilient system does or does not possess, community resilience also has pointed to resilience as a social process (see, e.g., Goldstein, 2010; Norris et al. 2008; Zautra et al., 2008). For example, community resilience in social systems includes active engagement in exchange of ideas, growth, resources, and pathways, to bring ideas to action. Community psychologists (e.g., Norris et al. 2008; Zautra et al., 2008) and environmental designers (e.g., Goldstein, 2010; Ozawa, 2010) have utilized the conceptual vocabulary of SES resilient systems to understand and design particular social behaviors in social systems, although they have not provided recommendations for how individuals within those groups should enact a resilience-thinking process through their talk. Alternatively, studies conducted by Goldstein (2012), Houston et al. (2015), and Ozawa (2012) have looked at how fundamental components of community resilience (e.g., trusting relationships between decision makers and stakeholders) are enacted through communicative practices, but those practices did not focus on how members' talk enacts resilience within the group context. For example, Ozawa observed the role trust played between intergroup relationships in creating resilient communities after an environmental crisis. In one of the cases that Ozawa studied using a communicative planning perspective, public officials' discourse to citizens, about a water reservoir replacement project in Portland, Oregon, signaled that city planners had dismissed community members' concerns and perspectives regarding water safety,

which led community members to lose trust in city planners, and which worked against the development of community resilience. Although the focus of this study was not on how group members enacted resilience thinking through their talk, it did present the critical role that group members' talk has in accomplishing group tasks. With this point in mind, my recommendations highlight practices that group members can enact to foster resilience thinking in their talk, to accomplish their group tasks.

This study also adds to the growing number of communication studies that have interrogated the ways in which resilience is produced through discourse (e.g., Agarwal & Buzzanell, 2015; Bean, Keränen, & Durfy, 2012; Buzzanell, 2010; McGreavy, 2015; Pezzullo, 2014). Studies, such as those conducted by Buzzanell (2010) and by Agarwal and Buzzanell (2015), presented ways that individuals' resilience can be developed through their talk. Buzzanell (2010), for instance, identified five factors (crafting normalcy, affirming identity anchors, maintaining and using communication networks, putting alternative logics to work, and downplaying negative feelings) that were found in individuals' talk that serve as indicators of communicative resilience behavior. Agarwal and Buzzanell (2015) posited that disaster-relief workers can construct resilience labor through discourse processes, to overcome challenges faced on the job.

Moving beyond the focus on how individuals' discourse can enact resilience, Bean et al. (2012) analyzed depictions of "resilient" citizenship that were employed by the media after the 2015 London subway bombings, finding that the media's depictions of the resilience of London residents had consequences for British national identity and security policies that were held by both the United Kingdom and the United States. The study of RBWG adds to understanding the discursivity of resilience by revealing how RBWG members' talk inhibited their resilience

thinking by attempting to isolate the group and to close the group's borders. In the next section, I introduce a group process model of resilience thinking that explicates ways in which group members' talk can promote resilience thinking.

Moving to a process model. Some scholars have looked to bridge studies on social-ecological resilience to social systems (e.g., Goldstein, 2010; Walker & Salt, 2006), whereas others have made strides to operationalize resilience thinking for public administration and environmental management groups, providing recommendations for how these social systems should practice resilience thinking (e.g., 100RC, 2017; Resilience Alliance, 2010; Stockholm Resilience Centre, 2015). However, the RBWG study showed that groups seeking to accomplish a task through a resilience-thinking process may face barriers in group members' talk that inhibit the group from enacting that process. The findings emphasize the need for procedures that group members can execute that fosters resilience thinking in their talk. With this goal in mind, I posit recommendations for a process model that bona fide groups can enact to achieve resilience thinking. This model does not seek to reinvent practices but, instead, to use core concepts and proven group practices across resilience thinking, design thinking, and information processing scholarship, to help group members enact resilience thinking through their talk.

Groups engage resilience thinking to build the adaptive capacity of a system. Groups employing a resilience-thinking process model are focused on building the adaptive capacity of the system within which those groups and other relevant groups are embedded. The influence of systems theory on resilience thinking means that, as a group process, members are not only focused on their group but they also recognize the system that is inclusive of their group and other groups. In this way, the process of resilience thinking also mirrors the reality of bona fide

task groups, in which the object of the group's task may be either internal or external to the group, and, yet, is found, inherently, within the system that the group is embedded.

As discussed previously, building the adaptive capacity of a system is important for groups because it makes the system resilient to disruptions. According to Gunderson and Holling (2002), characteristics of adaptive capacity within systems include productivity in acquiring and accumulating resources for the future, a "shifting balance of stabilizing and destabilizing forces" (p. 32), and "a shifting balance between vulnerability and persistence" (p. 32). For groups, these characteristics are operationalized through mechanisms of production, including resources that allow groups to create and sustain new innovations, and that promote connectivity between ideas and resources (e.g., groups being funded, group members designing and carrying out innovations, and there being channels for funding group innovations). Additionally, a characteristic of adaptive capacity in groups is the acceptance that external change is inevitable, and that the group, accordingly, responds with internal change (e.g., reorganizing itself to develop new programs and shifting member roles). Finally, group members must recognize that the system in which they are embedded has *vulnerabilities*, susceptibility to experiencing disruptions in its current state because of external change, and being willing to process and respond to those vulnerabilities (e.g., via solicitation, consideration, and response to perspectives that are different from those held by group members, as well as by using channels for feedback and to create trust between group members and those providing feedback).

To foster characteristics of adaptive capacity in groups, members can employ the process of resilience thinking. The process of resilience thinking seeks to promote production; group members respond to external change, first, by identifying the system's vulnerabilities and,

second, by innovating to move the system to a desired state. For groups, manifestations of

adaptive capacity are seen in the transformation of a system to a desired state. For groups to

build adaptive capacity through resilience thinking, members must accept that change is a

constant, and they must respond to external change by transforming the system. These tenets

drive members to identify vulnerabilities and opportunities for transformation, and then to

innovate to move the system to a desired state. Groups transform a system and, simultaneously,

build the adaptive capacity of the system through members' talk. Below, I discuss key tenets of

the inevitability of change and the central role of members' talk, before explaining phases of the

resilience-thinking process model.

Change is inevitable. Core to the resilience-thinking process model is group members'

acceptance of change external to the system. According to Walker and Salt (2006), change "can

have desirable or undesirable outcomes," (p. 10) in a system; however, it "frequently produces

surprises" (p. 10). Change also can reveal itself within a system through group members'

uncertainty and vulnerability (Gunderson & Holling, 2002). Group members may recognize or

locate change within their external contexts in various ways, including change related to the

focus of their task or change within the organizational system in which the group is embedded.

For example, group members' tasks might direct them to observe local and regional changes as

population increases, food shortages, or shifts in where people buy consumer goods. Typically,

changes recognized by group members inform the group's task, which can be defined as a

response to a change, such as a nonprofit task group that focuses on the problem of

homelessness, or a consumer goods group that is tasked with creating a new product line.

Members' recognition that changes, such as those mentioned, are inevitable drives their desire to

employ resilience thinking as a group process. Members respond to the inevitability of change

by building adaptive capacity, which manifests in members' desires to move the system from a current state, which, sometimes, but not always, is viewed as a problem, to a desired state.

Building adaptive capacity through talk and innovation. In the process model of resilience thinking, adaptive capacity is built through members' talk in two ways: in members' talk that grapples with vulnerabilities and in innovating solutions that move the system to a desired state. First, members' talk *negotiates vulnerabilities*, making known which components of the system can be improved, through cycling of phases, similar to adaptive cycles, that allow time for group members to engage in knowledge building (e.g., processing of information and making connections across insights) and for times of uncertainty (e.g., when opportunities are identified but innovations are unknown). By processing a system's vulnerabilities, members' talk builds on knowledge that is gained from those vulnerabilities to construct an issue landscape within which ideation and innovation can emerge.

The process of innovation is the second way in which groups build adaptive capacity in the process model of resilience thinking. The process of creating innovations (e.g., programs, services, and/or objects) is the enactment of production that systems need to be characterized as having adaptive capacity. The production of resources, through the process of innovation, also enacts the system's "shifting balance between vulnerabilities to persistence" (Gunderson & Holling, 2002, p. 32), and moves a system to a desired state.

Group members' desire to build adaptive capacity is the impetus for engaging in the process model of resilience thinking, and it guides members' talk within each of the phases for the group process model of resilience thinking. Group members work to build adaptive capacity of the system through their talk, specifically, through members' talk that builds knowledge about the system, ideates new innovations, develops prototypes and conducts testing, and ultimately,

reorganizes and reimagines the system in relation to its new state. These opportunities for members' talk that build adaptive capacity of the system are the phases of the process model, which are explained next.

Process model of resilience thinking in groups. Despite the lack of research connecting resilience processes to information processing in bona fide groups, models of resilience in systems provide a useful heuristic to understanding how information processing in groups is embedded in members' enactment of resilience thinking. As mentioned previously, the process model adds to scholarship that has focused on recommendations for cities and public administrators (e.g., 100RC, 2015; Desouza & Flannery, 2013; Gimenz, Hernantes, & Labaka, 2016; Jabareen, 2013; Lu & Stead, 2013) and resilient managers and processes (Duijnhoven & Neef, 2014; Resilience Alliance, 2010), by focusing on how groups should operationalize resilience thinking through members' talk.

This study showed that guidelines and mandates for openness, connectivity, and diversity are not sufficient for groups seeking to enact resilience thinking; group members need recommendations for how to talk about and process information (e.g., data or contributions that are solicited from nongroup members who are relevant to the group's task), to foster learning from diverse perspectives that are introduced in that information. Group practices that foster learning are important, as they allow for opportunities to be realized and actionable innovations to be produced. The following process model presents four phases, explained below, that groups cycle through as they enact resilience thinking: (a) knowledge building, (b) ideation, (c) testing and implementation, and (d) reorganization.
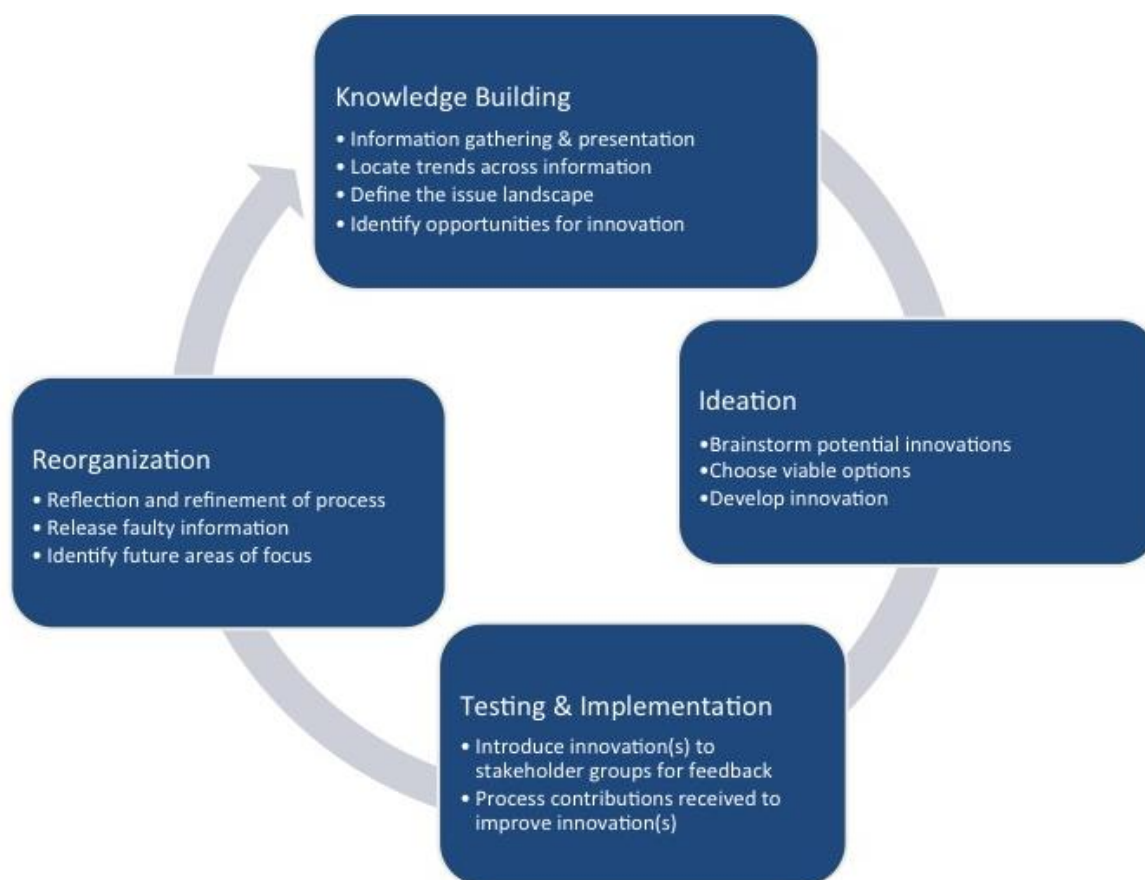
Figure 1. Resilience-thinking Process Model for Groups

Knowledge-building phase. The first phase of the process model incorporates

components of gathering and presenting information, exploring connections across information,

and identifying opportunities for accomplishing the group's task. This phase is called the

knowledge-building phase because it is sensemaking towards the end goal of understanding the

issue landscape for the purpose of designing innovations that can enhance a group's resilience.

Groups begin the sensemaking process by synthesizing information gathered and solicited,

before moving to analysis. There are four key assumptions foundational to the knowledge-

building phase of the resilience-thinking process for groups: (a) all information plays a role in

building knowledge about potential opportunities for change, (b) all information is related to

each other, (c) relationships between information illustrate the issue landscape, and (d) understanding the issue landscape leads to better innovations.

Development of the knowledge-building phase was informed by the findings from the current study that suggested group members dismiss prematurely information that differs from ingroup perspectives. The knowledge-building phase is designed to allow for group members' talk to engage in *synthesis*, bringing together information to reveal relationships that form, collectively, the issue landscape, prior to evaluating that information. Prior to enacting synthesis and analysis, however, groups must gather and present information. As the subphases of information presentation and synthesis were discussed in the previous section on information processing, below, I focus, primarily, on explaining information gathering and identifying opportunities for accomplishing the group's task.

Information gathering. First, group members must gather information that is relevant to their task (100RC, 2015). Although this subphase can be completed outside of the group (e.g., members can collect various information independently) and is not a group process, it is an important entry point that leads to future phases of the process model, making it foundational to a group's ability to enact resilience thinking. Information gathering should seek out all available data that capture the history, current state, and future trends that are relevant to the group's task (e.g., regional climate, population, or economy data) as well as perspectives of others implicated or involved in the group's task (Lu & Stead, 2013). Data representing others' perspectives take many forms, including narratives, PowerPoint presentations, and other representations of the lived experiences of those involved in the group's task.

In the case of a city government task group where members seek to enact resilience thinking as they developed the city's resilience strategy, 100RC (2015) recommended gathering

data across departments and services within the organization, as well as reaching out to local

"knowledge repositories" (p. 39), such as research labs, academic institutions, and county, state,

and federal agencies. Other groups also may mirror the 100RC approach of gathering data from

sources internal to the organization in which the group is embedded, from groups that are

external to the organization that manage data relevant to the group, and by soliciting

contributions from groups or individuals with a vested interest in the group's task.

 Present information, explore connections, and identify opportunities. Next, group

members should follow the processes of presenting information, exploring connections among

contributions, and identifying opportunities for accomplishing the group's task, as described in

the recommendations section of this chapter. These processes include presenting information

gathered, without adding values to that information, to allow group members access to

information gathered. As members are introduced to information, they should begin to develop

an *issue landscape*, a representation of themes (e.g., categorizations or characterizations based on

the content of information) that are found across available information that the group is

considering. Additionally, members should connect themes by grouping them into various

relationships. An issue landscape is used by group members to identify potential challenges that

currently are occurring or that are likely to occur in the future. Members identify opportunities

by considering a desired state based on perspectives gathered as part of their task, rather than

what the system is in the present moment or will become without intervention. The following

example illustrates these subphases, as well as the information-gathering subphase, described

previously.

 Hypothetical example. This example focuses on a hypothetical city task group that aims

to propose new programs for the city's Department of Human Services. Given this goal, the

group gathers social experience information, such as local economic historic and trends reports, and city social services data that were collected on vulnerable populations. The group also solicits contributions from local communities via questionnaires that focus on people's perceptions of social, political, economic, and environmental climates in the geographical area, as well as hosts community events that are designed to capture a variety of perspectives and experiences that are related to life in that city. Additionally, the group gathers data focused on city and regional current, historical, and future environmental forecasts (e.g., long-term weather forecasts and water management trends).

As various information is made available to the group (e.g., a report of a community event), a group communication consultant presents those data to group members by reading them aloud and sharing written reports with members. Upon gaining access to the information, group members begin assembling initial conceptions of the issue landscape. First, members receive historical environmental data for the region that give them a sense of the local climate, including how community members have experienced weather, for instance, in the past, and what they expect for the future. Weather predictions show that the region should expect more drastic temperatures than previously in the winter and summer. Next, they receive social services data that reveal the growing number of seniors in the community (aged 70 and older) who are seeking to relocate, and that home-based services provided by the city have increased by 10% over the last 5 years. Additionally, a report reveals an influx of commuters coming into the city via personal transportation, and economic trends suggest that local businesses will be hiring more employees over the next 10 years. Finally, perspectives of community members and results of the community questionnaire are shared with group members. Contributions received from community members include insights that reveal active neighborhood associations; however,

community members feel disconnected from decisions made by the city's government. Another

contribution from a community member describes how he has had a negative experience waiting

for the bus, and that transportation services have become more difficult to use because busses are

infrequent and routes are spread out. Additionally, local residents respond to a community

questionnaire that they no longer can keep their homes at a comfortable temperature during

summer heat waves, because their homes do not have air-cooling appliances.

Based on information presented, group members begin the process of identifying themes

and making connections between contributions. The group's hired group communication

consultant instructs members to write down short summaries, based on the content of the

information presented, on post-it notes and to place them on a wall for all members to view.

Group members write down the following:

A. Higher temperatures during summer

B. Increase in commuter traffic

C. More jobs

D. Seniors are relocating

E. Senior services increasing

F. Active neighborhood organizations

G. Community wants better relationship with city government

H. Buses infrequent, routes inconvenient

I. Homes not equipped for extreme heat

The consultant then asks members to get into small groups and to begin identifying

themes and building relationships between themes. One group connects higher temperatures,

increased commuter traffic, more jobs, and bus issues, identifying how relationships between the

summarized information point to a potential health vulnerability for community members, as the city is showing signs of an *urban heat island effect*, increased temperatures of an urban area that can lead to increased energy consumption, elevated emissions, health issues, and water quality (United States Environmental Protection Agency, 2017). Another group focuses on how seniors have experienced difficulty aging in the city, connecting the themes of bus issues, increases in senior services, and inability to maintain a comfortable home temperature. A third group attempts to make sense of themes of senior services, bus issues, community relationship with city government, and active neighborhood organizations, and members direct their attention to vulnerable relationships between city government departments and community members. Next, small groups come together and discuss how relationships between the information that they considered revealed those vulnerabilities. As they discuss their ideas, relationships between the information summaries and posited vulnerabilities are represented on the issue landscape. As part of their discussion, members also recognize that vulnerabilities identified reveal three opportunities for innovation that are connected to the city's human services programs and services; those groups include aging in the city, health services and urban heat island mitigation, and new opportunities for community participation within municipal structures.

Depending on the group's preference and group members' bandwidth, members might focus on all three opportunities concurrently or vote on the order in which those opportunities should be considered, based on a scale of most timely or most pressing to the environmental and human experiences in their city. In this example, the group votes to focus on aging in the city. Below, I use the opportunity of aging in the city to inform examples presented in the remaining phases of the process model.

Ideation phase. This process model imagines group members to be resilience thinkers, a role that requires them to invoke fluid and simultaneous identities as students of their task, designers of their task, and, at times, representatives of their respective professional or organizational roles. Members constantly are undergoing processes of learning (as students), to innovate (as designers) within the environment within which a group is embedded (as organizational members). Similar to resilience thinking, design thinking also requires designers to take on multiple roles simultaneously.

In the ideation phase, the process model draws from practitioner models of design thinking that have been utilized by Stanford University's d. school (2017) and by IDEO (2017). According to Kimbell (2011), a design-thinking approach considers designers as "interpreters of changes in culture who then create new kinds of cultural form" (p. 287). Design-thinking practices are useful exercises for group members enacting resilience thinking, because design thinking is solution, rather than problem, focused. Design thinking emerged as a response to the reality of *wicked problems*, design problem landscapes that are amorphous and hard to define, because they constantly are changing (Buchanan, 1992; Kimbell, 2010). As an alternative to approaching design processes as innovating solutions to concrete problems, design thinking is grounded in users' experiences and perspectives, and it is focused on finding opportunities to move users from their current state to a desired state (Brown, 2009; Kimbell, 2010), which design-thinking practitioners have referred to as a "human-centered design" (Brown).

Similarly, a resilience-thinking process is not oriented toward defined problems that require group members to focus on specific solutions to those problems but, instead, through the ongoing process of knowledge building, seeks to locate opportunities in which an innovation might move a system from its current state to a preferred state. The following subphases of idea

generation and prototyping identify particular practices that group members should enact, and

they point to design-thinking procedures that can be employed to keep group members' talk

focused on addressing a system's vulnerabilities through innovation.

   Idea generation. Group members should engage in formal procedures for ideation that

promotes their focus on knowledge gained through processing information or contributions that

were solicited from others, and use of that knowledge to brainstorm and prototype an innovation.

Design-thinking practitioners (Hasso Plattner Institute of Design at Stanford, 2010; IDEO, 2017)

have developed multiple group activities for ideation that move from "generating the broadest

range of possibilities" (Hasso Plattner Institute of Design at Stanford, 2010, p. 6) to developing a

prototype to be tested. IDEO (2017) suggested that group members can engage in a design-

thinking process of ideation in a variety of ways, listing activities that innovating groups can

enact on their website (see www.ideo.com). Sunwolf and Seibold (1997) compiled a list of

group facilitation procedures for helping groups to create new ideas (e.g., brainstorming,

consensus mapping, and buzz groups). "Procedures that help groups create" (Sunwolf &

Seibold, p. 400) promote creativity and the production of new ideas, and, at the same time, they

follow formal protocols that, often, are led by facilitators. The use of formal procedures during

ideation phases is important because, as Sunwolf and Seibold claimed, groups feeling stressed

for time move to solutions too quickly, which can lead groups to sacrifice ideation necessary for

innovative thinking (Poole, 1991). Delbecq and Van de Ven (1971) also suggested a process for

ideation that has group members break into small groups, with each member responsible for

proposing two types of ideas: one that seeks to change a current program and one that invents a

new program. Delbecq and Van de Ven posited that group members must see themselves as

designers and not as representatives of their respective departments, as members tend to defend

current programs and initiatives if the process of ideation does not identify their roles as "idea generators" within the group process.

   Prototyping. Although the extent to which a group creates a prototype of an innovation ranges, groups enacting a resilience-thinking process move to creation before bringing their prototype back to nongroup members solicited for contributions within the first phase. Whether a group designs a program, initiative, or a technological device, a resilience-thinking process engages prototyping, or what Hasso Plattner Institute of Design at Stanford (2010) called the "iterative generation of artifacts" (p. 8) that help groups to move closer to a desired outcome. Prototyping is an important step that captures ideas generated and moves them toward actionable innovations. According to Hasso Plattner Institute of Design at Stanford, a prototype can be "a wall of post-it notes, a gadget you put together, a role-playing activity, or even a storyboard" (p. 8). Prototyping is not just for making an idea more tangible but it can lead groups to generate new ideas or refine current ideas prior to testing an innovation with nongroup audiences.

   To move into prototyping, groups must identify specific opportunities and frame them as design questions (IDEO.org, 2017). Group members should think about prototypes as answers to design questions. To create a response to a design question, the design challenge must be clear; for instance, IDEO.org's (2017) "Frame Your Design Challenge" activity helps groups to move from opportunities to design challenges by having members ask themselves, "Does my challenge drive toward the ultimate impact, allow for a variety of solutions, and take into account context?" (para. 1). The goal of the design challenge activity is to help group members refine the design question to create innovations that best answer the question and respond to the opportunity identified in the knowledge-building phase. If a design question is too broad, innovations may

not respond effectively to the question. Similarly, if a design question is too narrow, innovations may limit the effects of an innovation and stifle the creative process (IDEO.org, 2017).

For RBWG, the 100RC guidelines created too narrow of a design challenge by mandating that the group design Boulder's resilience strategy. The narrow focus of the guidelines was made clear as RBWG members struggled to articulate that challenge (e.g., why a resilience strategy was needed), and by their process for responding to the challenge (e.g., the knowledge-building and ideation phases), when soliciting contributions from the Bounder City Council. RBWG members' talk about the Council's difficulty in understanding their task also pointed to the need for a clear design question for RBWG's tasks to respond. For example, in October 2015, Pamela repeated the Council's concern, stating that the Council thought the RBWG's task "feels very amorphous" (309), "very ambiguous" (310) and that "what [the task] seems to lack was really a frame for what we're trying to be resilience against" (314–315). RBWG members' talk showed that finding a clear design question is crucial in prototyping, to align design innovations with opportunities presented in the knowledge-building phase.

Hypothetical example. Once aging in the city is chosen as the focal opportunity, the group begins the phase of ideation. In the first subphase of idea generation, members engage in a series of "How might we?" questions (e.g., as part of IDEO.org's, 2017, "Frame Your Design Challenge" activity), to begin brainstorming possible innovations and imagining the desired state of aging in the city. Members come up with several "How might we?" questions that allow for a wide range of possible innovations for aging in the city in the future, and, through those questions, members introduce new ideas that connect to the issue landscape that was developed in the previous phase. Some examples include, "How might we aid seniors to live in climate-controlled homes?" and "How might we help seniors to maintain their lifestyle during days of

extreme weather?" Members continue refining questions until they come up with a desired state

that can serve to initiate the group's design challenge. Once they brainstorm various questions,

members narrow down the opportunity to a central challenge question that will share their

prototyping phase, such as, "How might we design a service to seniors that allows them to easily

retrofit their existing homes economically and stay in their homes for a longer period of time?"

After the design challenge is identified, group members ideate and develop prototypes for

city services that address the issue. As part of the group's goal to engage diverse opinions

throughout the process, member invite key personnel from the Human Services Department to

join them in subsequent phases of the process model, once the design opportunity was identified

as relevant to the work of that group. The group communication consultant encourages group

members, especially those who identify as members of that department, to see themselves as

designers rather than as defenders of current programs (Delbecq & Van de Ven, 1971). Group

members are tasked with brainstorming new ideas and situating their ideas within current senior

services programming in the city. Following the brainstorming activity, described by Delbecq

and Van de Ven (1971), the consultant asks members to break into small groups and to prototype

two interventions: one that is an improvement to a current program and another that is an entirely

new program that could be adopted by the city. The main components of the programs are listed

on large posters that are displayed around the meeting room and that are used to guide group

members' presentations of their prototypes. After the presentation of each group's prototypes,

all members vote on specific components within each program that they believe should be

included in the initial innovation that would be tested with seniors in the city. For instance,

group members could vote to make a current rebate program for the purchase of low-energy

appliances more robust by adding in-home consultations on energy efficiency, including

personalized advice for keeping homes cool, for seniors in the city.

   Testing and implementation phase.   As part of design thinking, group members should

introduce the designed product to other groups with vested interests in the group's task and

solicit their feedback about it. Testing is an established practice in design thinking (IDEO, 2017)

and it is the enactment of intergroup connectedness and active pursuit of diversity—two

components of resilient systems. After testing occurs, groups go through a second round of

processing contributions from other groups regarding the innovation created. Similar to the first

round, members should consider how those contributions help them to learn more about the issue

landscape, but also the particular opportunity that the innovation is being designed to address,

and users' experiences with the innovation. Brown (2009) found that testing prototypes is a

critical part of creating an effective innovation. Testing requires listening to users, with group

members processing their contributions to prototypes and using their insights to add to the

ongoing work of knowledge building about a cultural landscape, and how to innovate engaged

responses to issues presented.

   According to Hasso Plattner Institute of Design at Stanford (2010), "Testing is an

opportunity to learn about your solution and your user" (p. 10). Similar to how the initial

knowledge-building phase focused on learning, to build an understanding of an environment,

testing leads group members to return to the knowledge-building phase, which can lead to

generation of new ideas and refined prototypes. When testing, and the resulting knowledge

building and refinement, in a resilience-thinking model is an ongoing process, group members

may implement innovations as they test them and then reintroduce and implement refined

versions as they are updated through the testing phase. Other groups may choose to implement

an innovation only after several rounds of testing and refining.

Hypothetical example. Once a prototype is agreed on and developed by group members,

they must test the prototype. For instance, the group decides that the best way to test the service

is to engage a pilot group of seniors who attend events at the city's senior center. Because

members also want to understand how, currently, seniors regulate the temperature of their home,

they conduct a survey of seniors in the city, asking them about their home practices. Within the

pilot group, in-home consultations revealed that in 12 of the 20 in-home consultation cases,

seniors reported that, typically, they were not home during the hottest times of the day but,

instead, were involved in activities throughout the city. This information leads to information

regarding seniors' activities; specifically, that they sought opportunities to spend time outside of

their homes, but that they found doing so cumbersome during periods of high temperatures. In

processing the contributions complied through testing, group members realize that they missed a

key facet of the aging experience in the city: In addition to creating more comfortable home

environments, they also should consider safe ways for seniors to stay active within the city.

Reviewing the issue landscape that the group constructed previously, members relate

shifts in temperature over the last 20 years that made the, typically, temperate climate more

extreme to a decrease in the ease which with seniors could be active outside of their home.

Irregularities in transportation also added to challenges of senior mobility throughout the city,

enhancing seniors' apprehension to attend events, activities, and spend time outdoors. Initially,

group members build assumptions about seniors in the city, but testing reveals that the actual

perspectives and needs of that population differ from group members' expectations, with seniors

being more active than group members inferred from information that was available to them.

The increased heat of the city actually was keeping seniors in their high-temperature homes.

Moreover, group members realize that they were working previously under the assumption that

seniors' desire to stay in their homes was a driving component of challenges of aging in the city.

Although creating an efficient system for seniors to stay cool in their homes would be useful for

some seniors, it would not address fully the experience of aging in the city. This example, thus,

shows how contributions, in response to the prototype, produce continued opportunities for

knowledge building, which leads group members to redefine the issue landscape, with members

returning to the ideation phase to refine their prototype and to develop innovations that align

more closely with the updated issue landscape.

For this group, members respond to the contributions by refining their initial prototype.

Instead of focusing only on home improvements, they decide that they need to develop a well-

rounded aging plan that aligns more appropriately with varying activity levels of seniors within

the city. Group members brainstorm ways in which they could enhance activities during times of

extreme heat, including an increase in indoor activities that keep seniors active during the

summer (e.g., indoor recreational activities oriented toward seniors and interest-focused groups).

Additionally, the group begins considering transportation issues in the city. Because there was a

senior transportation program already in place, they develop a procedure that enhances that

program when local meteorologists issue heat advisories. The procedure includes increasing

senior transportation services on caution days and ceasing all transportation on days when travel

was not advised. On days when transportation services are not running due to the heat, the

program will employ transportation teams to go door-to-door to the homes of seniors, to remind

them of cooling practices that could keep them safe from heat stroke and other serious medical

issues. Moreover, the group suggests engaging active neighborhood associations to implement

neighbor-to-neighbor care visits to vulnerable populations, such as homebound seniors, during

heat advisory periods that could provide additional assistance to those populations during

extreme weather, and alert the city's Human Services Department if an intervention was needed.

Once again, group members enact the process of testing. Members, first, introduce their revised

prototype to a pilot group in the community, increasing gradually the number of seniors as they

continue to test their prototype. Each round of testing leads to a phase of ideation and

refinement, until group members and personnel from relevant city departments deem the

innovation ready for full implementation.

　　　　Reorganization phase. Finally, reorganization focuses on identifying information and

programs that should be released because they no longer are relevant or valuable to the focus of

the group's task. Reorganization occurs prior to a group's next cycle, to open the group to

opportunities that are found in a new iteration of the process model. Initially, this reorganization

phase can be chaotic, as it may be difficult to know when the phase of testing and

implementation is complete. Additionally, groups may move to enact subprocesses of reflection

and release, as they ideate, test, and implement innovations. Despite the group processes of

reflection and release that may occur, members should engage in formal procedures of

reorganization. As explained below, reorganization occurs through reflection and release of

resources, processes, and information that are deemed to be faulty.

　　　　Reflection, release, and refinement. Groups should engage in episodes of reflection,

release, and refinement following implementation of innovations. Members' talk that reflects on

the previous process not only enacts resilience thinking by inviting discussion of the group's

vulnerabilities but it also promotes future processes by positioning past group practices as

learning opportunities that, upon reflection, can inform its future practices. Reflection may be

challenging for group members, as they are forced to deal with the group's vulnerabilities, in addition to the vulnerabilities of the task, to gain the adaptive capacity that is needed to continue the cycle. In this stage, however, members introduce vulnerabilities to the group that focus, specifically, on past practices conducted by members as part of the resilience-thinking process.

Members' talk that reflects on previous group practices also fosters a sense of shared group accountability to conducting the resilience-thinking process. In regards to the RBWG, whereas a small number of members were relied on to lead the group's pursuit of the task, groups enacting the resilience-thinking process model should strive for *redundancy*, or overlapping capabilities of a system (Walker & Salt, 2006)—in this case, members' abilities to enact the process. Groups can achieve redundancy by making sure that members are empowered and held accountable for completing the group's tasks. Without reflection, groups are more likely to succumb to a *rigidity trap*, a term used in models of resilient systems to describe how a system can become inflexible and produce barriers to internal change (Carpenter & Brock, 2008). Rigidity traps in groups can occur when members limit the diversity of perspectives considered. Rigidity traps can be avoided through addressing group issues in reflection, even when reflection surfaces weaknesses that, otherwise, might be seen as problematic for the group.

The notion of reflection also is critical to conceptions of design thinking and is part of the ongoing process of knowledge building (Brown, 2009; Kimbell, 2012; Schön 1983). According to Sharp and Milliken (1964), reflective thinking correlates positively with the quality of a group's solutions to complex problems. Group communication research (e.g., Hirokawa, 1985) and educational instruction scholarship (e.g., published in *Journal of Reflective Practice*) has studied and recommended various ways to engage groups comprised of students in methods of reflective thinking. Across these studies, strategies have focused on members' evaluation of

their or others' practices, by considering the nature of practices enacted and consequences of

those practices. Similarly, members should evaluate their enactment of the resilience-thinking

process, focusing on core goals guiding the process model, identified earlier, as vulnerability that

leads to learning and building the group's adaptive capacity. Members can engage in formal

reflection by considering and discussing answers to the following questions:

   A. Which group practices were effective and ineffective in achieving learning?

   B. Which group practices were effective and ineffective in achieving action?

   C. Which information sources were effective and ineffective in achieving learning?

   D. Which information sources were effective and ineffective in achieving action?

To aid the discussion of answers to these questions, group members also should consider the

following questions when group practices or information sources are deemed to be effective:

   A. Why were they effective?

   B. What goals did they help the group to achieve?

   C. How did the practices/information sources foster group learning?

   D. How did the practices/information sources affect positively the group's ability to

      respond as new challenges were presented?

   Similarly, if group practices or information sources are deemed to be ineffective, group

members should discuss answers to the following questions:

   A. Why were they ineffective?

   B. What were the consequences of these practices?

   C. How did the practices/information sources impede group learning?

   D. How did the practices/information sources affect negatively the group's ability to

      respond as new challenges were presented?

Through the process of reflection, themes and connections identified in various iterations of the sensemaking phase can begin to be identified as irrelevant, as a result of development and implementation phases. Release and replacement, or refinement, of those elements both is influential and required for group members to reorganize and start a new process. Release provides group members with the opportunity to shed any information that they found to be faulty throughout the processes of sensemaking, testing, and implementation. Groups that embrace release open members to new opportunities within future iterations of the process model. When faulty practices and information sources are released, members replace them with new practices that are informed by their experiences that were gained from the previous cycle. Walker and Salt (2006) described the opportunity for change after a period of release in the panarchy of resilience systems as *renewal*, which portrays the potential for rejuvenation that can occur if groups capitalize on released practices by improving those practices in future cycles. Walker and Salt also posited the range of possibilities during the reorganization phase if renewal is not capitalized on, stating that the renewal "phase of the cycle may lead to a simple repetition of the previous cycle, or the initiation of a novel pattern of accumulation, or may precipitate a collapse into a degraded cycle" (p. 78). In other words, the potential for a system to continue, thrive, or decline is based on that system's ability to reorganize effectively. For group members, this point means that they must enact a combination of reflection, release, and refinement in their talk, to promote reorganization that embodies learning and builds on the group's adaptive capacity.

Hypothetical example. After the group moves through cycles of knowledge-building, ideation, and testing and implementation phases, a group communication consultant leads members' through the phase of reorganization, first engaging in reflection to pinpoint

information or group practices that the group should release. In the reflection subphase, the

consultant moves members through each phase or group of phases (e.g., repeated phases as a

result of prototyping and testing), asking members to reflect on opportunities to improve their

practices. Additionally, the consultant asks members to identify any information that, in

retrospect, was faulty, irrelevant, or inaccurate. In response, group members identify their faulty

inferences regarding seniors' actions and they suggest a revision of the information-gathering

phase, including adding questions current questionnaires and employing ethnographic methods

to gather information related to the identified opportunities for innovation in the future.

Members also identify that new reports have been created since information had been gathered

last, and that the group should seek new information within the next cycle.

It is important to note that because the group focuses on one opportunity at a time,

reflection occurs at the end of each opportunity (e.g., between the phases of implementation of

the previous opportunity and ideation for the next opportunity discussed). This reflective

learning process following implementation is integral to the resilience-thinking process for

groups. Group members constantly are engaging in reflection, learning, and implementation of

lessons learned—inherent components of all phases of the process model. Additionally, at the

end of the cycle of the third opportunity, group members undergo a formal reorganization phase.

Also inherent to the process model is the subphase of release. Similar to reflection,

release occurs throughout the resilience-thinking process. In the example, when group members

recognized that their information about seniors was incomplete, they released the faulty

information and replaced it with information gained through testing. In addition to release, as

part of the reorganization phase, members should engage in formal practices of releasing

inefficient and ineffective group practices and faulty sources of information. In reflection,

members identify specific faulty practices and sources of misconceptions of information

presented; in release, members remove actively those practices and sources of misinformation

from their process. By removing these processes, the group engages in reorganization through

refining group practices. Group members follow the reflection of each phase with release, and

then move to refinement, to ensure that released components are not repeated within a new

process cycle.

Implications of the Group Process Model of Resilience Thinking

Employing resilience thinking as a group process has implications beyond moving a

system to a desired state. With regard to public administration task groups, such as the group

investigated in the current study, group members' roles are implicated when those members

engage in resilience thinking. Additionally, the process of resilience thinking has the potential to

change the roles of others within the system (e.g., key stakeholders). For those groups solicited

to contribute their perspectives and experiences related to the group's task, the process model

also has implications for how their contributions should be considered by group members and

how solicited contributions inform innovations that, ultimately, affect those contributing groups.

For public administration task groups, the resilience-thinking process model has the

potential to affect the role of group members enacting the process. Specifically, the process

model, through its phases of knowledge building and ideation, positions group members as

researchers and innovators. In the case of public administration task groups, positioning group

members as researchers and innovators means that municipal staff, serving as group members,

must enact both analytical and inventive practices, to identify opportunities for transformation

and to respond to those opportunities through innovation. This study provided evidence that

public administrators have an intimate awareness of the cyclical relationship between their roles

as municipal staff and other groups within their system (e.g., RBWG members' acknowledgment of their service of, and accountability to, groups that were solicited for contributions). However, those administrators may not envision their role as researchers of the current state of the system within which they are embedded or as innovators who are tasked with transforming that system to a desired state. When group members enact practices associated with sensemaking and ideation phases, their role as public administrators expands to include characteristics of practices that, typically, are associated with research (e.g., analyzing diverse perspectives to inform an issue landscape) and with design (e.g., identify opportunities for innovation, ideate new possibilities, and design and test prototypes).

Additionally, if, potentially, the process model of resilience thinking expands the role of public administrators to include research and design, that expansion also might have implications for the groups that an innovation is designed to serve. When public administration task groups engage in resilience-thinking processes, their approach to contributions positions relevant others within the group's system (e.g., the local public) as users of the innovation that is produced by the group. Although the resilience-thinking process model utilizes design-thinking practices, which take a human-centered approach to innovation, typically, the innovation process that serves as the operationalization of design thinking in groups (e.g., practices employed by IDEO or IDEO.org) leads to a product, program, or service that is consumed by users. Conceptualizing an innovation designed by public administrators as being consumed by users has potential implications for those others (e.g., citizens) implicated within the system of a public administration task group who do not envision their roles as users of a municipal product but, instead, as co-designers of local governance.

There are additional implications of the resilience process model for groups that are solicited and provide contributions to task groups. Contributions from nongroup members who may have experienced marginalization through other forms of group information processing (e.g., because contributions from those nongroup members presented a challenging or alternative perspective to members' views) are positioned within the process model as having inherent value because of their experiences related to the task. Processing contributions from these groups based on their content could lead to community programs that better serve those groups that have been marginalized in the past. Additionally, using a resilience-thinking model to process contributions from groups that are considered to be contentious towards the task group also may shed light on to the tension between those groups. For example, RBWG members dismissed contributions that included criticism of the city government as reactions to the current political climate. This dismissal denied the legitimacy of perspectives embedded in those contributions. RBWG members also expressed that they did not understand why community members viewed actions of city government as lacking transparency, and they dismissed those comments because they deemed them to be incorrect. Alternatively, processing contributions through sensemaking practices could have led to a better understanding of experiences that were informing the perspectives that were represented in contributions that included criticisms and tensions between community perspectives and the group's views.

At national and international scales, reframing contributions from others as, inherently, valid has the potential to shift how value is accounted (e.g., related to economic or political power, or to differences in religion) between groups, such as nation-states. In extreme cases, if contributions from groups that are deemed to be outgroups (e.g., due to having less economic or political power) are considered based on the content of their perspectives and experiences,

countries, such as the United States, have the opportunity to reframe diplomacy in ways that recognize what could be gained from perspectives of those groups as opposed to basing that recognition on nation-states' international influence. Additionally, the resilience-thinking process has implications for nation-states that have been marginalized historically due to religion. If a nation-state seeks to understand perspectives of other nation-states that have been characterized negatively in the past (e.g., in the case of perceptions held by some U.S. members regarding nations with large Muslim populations post 9/11), those nation-states may come to a better understanding of values of those outgroups, and, as a result, find similarities in values held by the group, which also could affect not only perceptions of the outgroup but, also, diplomatic relations between the groups.

The process model of resilience thinking has implications, thus, for both group members and others part of the system within which the group is embedded. By integrating research and design-thinking practices into the process, group members' roles in public administration task groups may incorporate new characteristics with regard to their expanded roles as researchers and designers. Additionally, members' talk that enacts design-thinking practices may position not only group members as designers, but also some groups, such as citizens, as users. At the same time, the process model allows for hearing voices of outgroups that, historically, have been marginalized both at the local and international scale.

Limitations and Considerations for Future Research

The study's findings shed light on important conceptual and practical implications for bona fide groups, including how to promote members' talk that maintains open group borders to other groups and the importance of members' talk in achieving a bona fide group's task. At the same time, those findings must be viewed in light of some important limitations that

characterized the study; specifically, methodological choices that limited the scope of the data obtained. The following discussion explores how focusing on group members' talk in meetings and studying only one bona fide group limited the obtained findings.

First, the data collected point to important limitations. The study's dataset was limited purposefully to members' talk during group meetings, because those meetings included direct talk about the group's tasks. Limiting the data to only group members' talk during meeting times meant that the study did not capture every instance of group members processing contributions; in particular, it did not include members' talk outside of observed meetings. Although it is likely, due to members' multiple and overlapping memberships in other groups, that members interacted at times that I did not observe, the likelihood is low that their talk outside of meetings would have provided new insights about how those contributions were processed, because RBWG members moved quickly to evaluate them within group meetings. If members did not need to discuss contributions in group meetings after they first were presented to members, there is a low likelihood that they discussed them at other times.

Additionally, based on observations that I conducted early in the research project, if members discussed contributions outside of group meetings, that talk probably would have reproduced the same themes that were present in members' talk during group meetings. In addition to observing and recording meetings, research outside of the parameters of this study included shadowing the Boulder Chief Resilience Officer (CRO) in 2015. During my observations of the CRO, I witnessed group members having conversations about RBWG tasks outside of formal group meetings; however, those conversations rarely discussed, as part of those tasks, contributions solicited from other groups. Moreover, conversations between group members that I heard aligned with talk within RBWG meetings, pointing to the low potential for

members' talk about contributions varying beyond their talk during meetings. However, in addition to in-person conversations about contributions, members interacted over email and phone, but I did not have access to those interactions. Future research could observe members' interactions outside of group meetings to understand if their talk about contributions continues outside of meetings, and if that talk differs from discussion of them in group meetings.

Second, by looking at members' talk during RBWG meetings, the study was limited to how members' processed contributions and it did not address *why* they processed them in particular ways. The methodological choice to observe group meetings and not to interview members about their talk was intentional, as the study's focus was on in situ group members' talk. However, future research that includes interviews with group members could provide insight on why they discuss contributions in various ways and whether members are uncertain about how to process certain types of contributions (e.g., public engagement contributions), or which types could contribute to their task. Insights regarding why contributions were processed in particular ways through group members' talk could shed light on members' perceptions about various types of information, as well as the solicitation process that is used to acquire contributions. Finally, interviews with group members—specifically, with those attempting to enact resilience thinking within their groups—could make the group process model of resilience thinking more robust by identifying additional barriers beyond the phases involving information processing, which was the focus of this study.

Third, a major limitation to this study is that only one group was observed. Studying only one group may skew data to the specifics of that group, whereas studying multiple groups could have strengthened insights found across task groups. The decision to study one group was made for logistical reasons. When I began observing RBWG, I focused on the group's

involvement in the larger 100RC network and, as part of a research team, I intended to observe

additional cities' participation in 100RC. In November 2015, when I began focusing,

specifically, on RBWG members' talk, I had started already to collect data on other cities'

involvement in 100RC (see Chase & Frankel-Goldwater, in press), but, at that time, I had access

only to RBWG's meetings and had not reached out to any additional 100RC working groups.

The access granted by the Boulder CRO and RBWG members allowed me to both attend and

record all meetings. That access provided an opportunity to analyze closely group members'

talk, which would have been less likely at other 100RC sites, especially during the time frame of

the study. Future research could expand this study to more 100RC cities, observing municipal

working groups and their members' talk about contributions solicited from others, which would

allow for comparison across municipal working groups required by the 100RC grant stipulations

to solicit and consider contributions from others.

Fourth, the study focused on a particular type of group—specifically, a task group in

public administration that emerged in response to an international grant that mandated the group

to solicit contributions from nongroup members. As a municipal task group, RBWG was

presented with specific guidelines that other groups, such as groups in the for-profit sector,

would not have to consider. In particular, RBWG's relationship with the Boulder City Council

and the Boulder community is more complex than for-profit businesses' relationship with their

stakeholders, because city governments make decisions that affect citizens' lives to a larger

extent than do typical consumer products. Additionally, the relationship between public

administration groups and their constituents often is defined formally, and conditions for

soliciting contributions from various nongroup members may be beyond the control of a singular

municipal group (e.g., guidelines, or even laws, may be in place for how often groups must

solicit contributions). However, despite the unique context of a city government group, the scenario of soliciting contributions and considering them is a common phenomenon across task groups. Furthermore, task groups often have governing bodies (e.g., boards of directors and investors) and user groups (e.g., consumers and clients), despite the sector in which they are embedded. To address the influence of those contexts on task groups, researchers could compare findings across multiple bona fide groups that are situated beyond the public sector, by studying groups in for-profit and nonprofit sectors.

In addition to the particular type of group investigated, RBWG emerged during the specific political climate in which it is embedded. In particular, at least two aspects of Boulder's political context could have influenced RBWG's talk about contributions from others. First, RBWG emerged following the 2013 Colorado Flood, which was foundational to the City of Boulder's application for the 100RC grant. Moreover, the group emerged as the Boulder community still was rebuilding and recovering from the destruction caused by that environmental disaster. A complete understanding of the impact of the flood on RBWG members' talk may be difficult to disentangle from what members would have discussed otherwise. If, for example, RBWG members' talk was intensified by the flood experience, studying members' talk after the flood could have affected the status, making them higher or lower, of contributions solicited from nongroup members in RBWG members' talk, as opposed to studying the group at another time. In this case, studying members' talk after that disaster may have provided access to perspectives that, otherwise, would have been hidden but still affected members' talk.

Second, at the time that RBWG emerged, Boulder public administrators were being criticized in the local press for their lack of transparency in the decision-making processes for

planning and development review applications made by businesses, such as Google (for more information on Boulder's political context at the time of the study, see Chapter 3), which affected how RBWG members processed contributions. The political context in Boulder may have led group members to scrutinize contributions more than they would have otherwise, perhaps because they viewed those contributions as being overly critical or were from groups that held negative feelings toward the RBWG. Regardless of the unique situation in Boulder during the study, RBWG members were not alone in facing scrutiny for lack of decision-making transparency or facing a disruption (e.g., a natural disaster, a cyberattack, or a change in economic stability) that challenged their current planning procedures. Future research could study the RBWG 5 years after the flood or in another political climate.

Another limitation of the study was that observation of RBWG was limited to the 2-year time frame of the 100RC grant. Although there is evidence to suggest that RBWG will continue as a working group in the City of Boulder beyond the scope of the grant, it is unclear if or how the group's tasks will shift. I attempted to avoid making claims about what form RBWG will take or what tasks RBWG will focus on in the future, as I do not know what the future of RBWG will look like over the long term. Research, however, should follow a task group beyond the initial task completed by that group, to see how or if members' talk changes with a group's longevity. Although the parameters of this study did not include the study of whether or how group members' talk changes in response to recommendations presented previously in this chapter, this study's findings will be presented to RBWG, and, as explained below, they will inform my future facilitation of group information processing and groups seeking to engage resilience thinking as a group process.

Another potential limitation of the study was the choice to analyze data acquired by segment rather than temporally/sequentially. Considering time as a factor in members' talk about nonmembers' contributions, for instance, may have revealed that members responded to or continued to employ approaches to processing information that they enacted in previous meetings. However, it also is possible that a sequential analysis may have produced findings similar to those reported in this study, as the qualitative data-coding approach that was employed revealed that across meetings, members used various discursive resources to consider contributions from other groups. To show similarities in members' talk across meetings, the month and year of meetings was indicated when presenting themes found in members' talk.

With regard to recommendations offered based on the study's findings, there are several limitations of the process model for resilience thinking, including an assumption of rationality as a guiding principle of group members' interactions, influence of power dynamics among group members and between members and other groups solicited for contributions, effects of organizational or community culture on group members' interactions, and the adaptability of the model across groups and issues. First, the process model assumes that rationality is the primary driver of group members' interactions. Assuming rationality in members' talk is problematic because, as Flyvbjerg (1998) found, rationality is context-dependent, and a group's context may be dominated by power dynamics among members or between members and groups solicited for contributions. The power dynamics embedded in a group's context may manifest in group members' interactions, resulting in members' talk that stands in contrast to assumptions and practices of the resilience-thinking process model. Although the model does not account for varying power dynamics within group contexts, it does attempt to equalize the power (or lack thereof) attached to contributions solicited from certain groups might hold. In the process model,

a fundamental assumption is that all contributions have the same value within group members'

talk, which equalizes contributions from groups with perceived power that is greater or less than

that of group members employing the resilience-thinking process model.

The process model for resilience thinking also does not account for cultural dynamics

among group members, particularly among members, such as those on the RBWG, who may

have worked together for a long period of time within the sponsoring organization. The

organizational culture in which a group is embedded and members' previous experiences of

processing information as a group may enhance members' talk in particular ways that align with

or create barriers to enacting the process model for resilience thinking. In particular, it is

possible that the shared experiences of RBWG members may have affected how group members

processed information received from others. Although the model attempts to minimize group

members' organizational roles and, instead, promotes group members' roles as students and

designers, groups are embedded within organizations or communities that structure their

interaction. Similarly, contexts may influence how the model is taken up by groups, particularly

with regard to political, social, and/or economic climates of communities or organizations in

which groups are embedded, as well as the issue landscape in which groups must respond. The

process model centers on developing knowledge about the system within which groups are

situated and identifying issues within that system. Although this exploratory approach promotes

the model's adaptability across various groups, for some issues and contexts that are contentious

politically (e.g., fracking), groups may need to attend more carefully to changes in the issue

landscape; in such cases, enacting the model may take more time for groups to complete than if

an issue landscape divisive politically. Similarly, the phased approach of the model may not be

appropriate for groups working within time constraints, as the model includes tasks external to

the group setting that may take extended time (e.g., information gathering or testing and implementation).

Future Applications

This section applies the implications and recommendations presented previously in this chapter to situations beyond the scope of this study. Specifically, I plan to apply the findings in two ways: by presenting recommendations to RBWG and in my future work with groups.

First, I will present the findings of this study at a RBWG meeting in late Summer 2017. I also will share recommendations that emerged from my observations of group members' talk and explain how that talk affected how members processed contributions from members of other groups. During that presentation, I will overview the study's findings, provided members with an opportunity to reflect on their past processes and to engage actively in the reorganization stage of the group process model of resilience thinking. At that time, I will facilitate a discussion among RBWG members that addresses went well with regard to considering and implementing contributions offered by others in the group's task of designing the resilience strategy, as well as how their talk may have created barriers to enacting resilience thinking. As part of that presentation, I will share recommendations for how members should frame their work as opportunity focused rather than as problem focused, using the group process model of resilience thinking presented in this chapter as a recommendation for the group's next steps.

At the time of my presentation, RBWG will be at a crossroads, moving beyond a known task to the unknown, as the group begins cultivating multiple projects that span across various city municipal departments. With the finalizing of the resilience strategy, the group will enter a new chapter, and RBWG members will need to move actively beyond the work of crafting the resilience strategy to how they will serve as purveyors of the resilience-thinking process in the

City of Boulder. RBWG members, as members of a bona fide group, must continue to reconstitute themselves through engaging with others' perspectives, opinions, and experiences, and, at the same time, they must enact their task of resilience thinking by identifying and cultivating new opportunities and innovations. Hence, even though RBWG's task is changing, RBWG members must continue to solicit and process insights from people outside that group. My presentation, thus, will acknowledge the group's transition and frame my recommendations in light of the group's next steps.

Insights from this study also can contribute to other task groups, even if those groups are not tasked with enacting resilience thinking, and, in the future, I will share those insights with groups with which I work. For example, I plan to use the findings as a postdoctoral researcher on a National Science Foundation (NSF) Smart and Connected Cities proposal that was submitted in February 2017. If the NSF proposal is accepted, I will integrate insights from this study into my facilitation of a group comprised of technology designers, City of Boulder staff members, and local scientists, who will collaborate to create an online application that would make environmental data and trends available more readily to community members. Informed by the findings of this study of RBWG members' talk, Boulder community perspectives will be gathered and considered by the collaborating designers, municipal staff members, and scientists to inform the design process of the application. As part of my role, I will lead that collaborating group through a round of the resilience-thinking process model that was developed in this study. If accepted, the proposed study will provide an opportunity to test and refine the process model, as well as to test and refine my recommendations for how group members should talk when processing contributions obtained from nongroup members.

In addition to the proposed study, I plan to implement the findings and recommendations from this study as a process-improvement consultant, assisting groups to process information effectively and leading members through the group process model of resilience thinking. This study pointed to resilience thinking as a model for groups to consider when they not only seek to change current ways of thinking (as demonstrated through the models of Resilience Alliance and 100RC) but also want to move to desired states, whatever those states might be for the group. This research, thus, potentially, provides insights that will be useful to groups that seek longterm survival, opportunities for transformation, and more effective information-processing practices.

Conclusion

This study analyzed ways in which RBWG members discussed contributions that they had solicited from members of other groups, to better understand the role that members' talk plays in collective processing of such information. The findings from this study provide insight into the tendency of group members' talk to close the group's borders, even when the group's task mandates that those borders be open. Additionally, the study showed the influence that members' talk has on a group's ability to accomplish its task. Furthermore, due to the focus on a task group that was developing a city resilience strategy using resilience thinking, the study also revealed the importance of including group practices that foster resilience thinking in members' talk in guidelines created for groups seeking to enact resilience thinking. These findings led to recommendations for group processes in which members' information processing is guided by learning from values that inhere in collected information rather than evaluating its validity. Additionally, the findings led to the development of a group process model of resilience thinking that promotes learning, diversity, and openness in group members' talk, and that aligns

members' talk with goals of a resilience-thinking process, for the purpose, ultimately, of building

the adaptive capacity of a group's task and, simultaneously, of the group.

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APPENDIX A

PARTICIPANT CONSENT INFORMATIONAL HANDOUT

This information is provided to answer questions you may have about the 100 Resilient Cities study conducted by researchers from the University of Colorado Boulder

Purpose and Background
Our research examines the 100 Resilient Cities (100RC) initiative at several levels. In individual communities, we are interested in how cities develop a resilience strategy, how a Chief Resilience Officer (CRO) develops resilience activities, and the extent to which citizens and publics participate in these efforts. As a network, we are interested in how cities interact with each other and whether they learn from and help each other. As an initiative, we are interested in various meanings of resilience that are used by stakeholders in various parts of the network and how these meanings inform resilience strategies. Our research will document the 100RC initiative and help provide independent evaluation of key practices that contribute to community resilience.

Study Tasks and Procedures
We will be visiting network project sites and attending network activities to learn about local resilience strategies and how learning is shared within the network. We appreciate your assistance in gathering this information. Our study procedures include participation in public meetings, observation of organizational meetings, interviews, and examining 100RC related documents and communications. Although we will collect no personally identifying information, our observation of professional and civic interaction during construction of resilience strategies could identify the individuals who take part based on their roles or contributions.

Information for Participants
This type of research involves few risks to participants, other than concerns about confidentiality. Benefits may include contributing to participants' ability to identify and perform the best practices of collaborative networking, and more broadly, reflect on the meaning of resilience and resilience strategies. This research will be shared with community partners to help support and inform local resilience efforts. All the information that we gather is stored at our offices and/or secured on our password-protected computers and access to them is limited to the research team. Your name will not appear in any transcripts. Your participation is completely voluntary, and you may choose not to answer any questions. We would be happy to answer any questions you have regarding our research.

Participant Rights
If you have questions about your rights or other concerns, you can call the Institutional Review Board (IRB) at (303) 735-3702. The IRB is independent from the research team.

Investigator Contact Information

Name	Role	Department	Phone	E-mail
Bruce Goldstein	Associate Professor	Environmental Design/Studies	720-346-4957	brugo@colorado.edu
Leah Sprain	Assistant Professor	Communication	303-492-7306	Leah.sprain@colorado.edu
Claire Chase	Doctoral Researcher	Communication	303-492-7306	Claire.chase@colorado.edu
Lee Frankel-Goldwater	Graduate Researcher	IBS	917-676-5986	Lee.FrankelGoldwater@Colorado.EDU

APPENDIX B

UNIVERSITY OF COLORADO IRB INITIAL LETTER OF APPROVAL

CU University of Colorado Boulder

Institutional Review Board
563 UCB
Boulder, CO 80309
Phone: 303.735.3702
Fax: 303.735.5185
FWA: 00003492

APPROVAL

11-Dec-2014

Dear Mr. Goldstein,

On **11-Dec-2014** the IRB reviewed the following protocol:

Type of Submission:	Initial Application
Review Category:	Expedited - Category 7
Title:	Resilient Cities
Investigator:	Goldstein, Bruce
Protocol #:	14-0673
Funding:	None
Documents Approved:	14-0673 Consent - Informational Handout (11Dec14); Interview Invitations (11Dec14); 100RC Staff Questionarire; CRO Questionaire; 14-0673 Consent - Interview (11Dec14); 14-0673 Protocol (11Dec14);
Documents Reviewed:	HRP-211: FORM - Initial Application;

The IRB approved the protocol from **11-Dec-2014** to **10-Dec-2015** inclusive.

Before **10-Nov-2015**, you are to submit a completed FORM: Continuing Review (HRP-212) and required attachments to request continuing approval or closure. This protocol will expire if continuing review approval is not granted before **10-Dec-2015**.

Click the link to find the approved documents for this protocol: Approved Documents. Use copies of these documents to conduct your research.

In conducting this protocol you must follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,
Douglas Grafel
IRB Admin Review Coordinator
Institutional Review Board

APPENDIX C

UNIVERSITY OF COLORADO IRB AMENDMENT LETTER OF APPROVAL

Institutional Review Board
563 UCB
Boulder, CO 80309
Phone: 303.735.3702
Fax: 303.735.5185
FWA: 00003492

APPROVAL

18-Nov-2015

Dear Mr. Goldstein,

On **18-Nov-2015** the IRB reviewed the following protocol:

Type of Submission:	Amendment
Review Category:	Expedited
Title:	Resilient Cities
Investigator:	Goldstein,Bruce
Protocol #:	14-0673
Funding:	None
Documents Approved:	14-0673 Consent - Informational Handout (18Nov15); 14-0673 Protocol (18Nov15); 14-0673 Consent - Interview (18Nov15);
Documents Reviewed:	HRP-213: FORM - Amendment; Lee FG - Citi IRB Completion Report.pdf;
Description:	Update to study personnel.

The IRB approved the protocol from **18-Nov-2015** to **10-Dec-2015** inclusive.

Before **10-Nov-2015**, you are to submit a completed FORM: Continuing Review (HRP-212) and required attachments to request continuing approval or closure. This protocol will expire if continuing review approval is not granted before **10-Dec-2015**.

Click the link to find the approved documents for this protocol: Approved Documents. Use copies of these documents to conduct your research.

In conducting this protocol you must follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,
Douglas Grafel
IRB Admin Review Coordinator
Institutional Review Board

APPENDIX D

UNIVERSITY OF COLORADO IRB

CONTINUING REVIEW LETTER OF APPROVAL (2015)

Institutional Review Board
563 UCB
Boulder, CO 80309
Phone: 303.735.3702
Fax: 303.735.5185
FWA: 00003492

APPROVAL

17-Dec-2015

Dear Mr. Goldstein,
On **17-Dec-2015** the IRB reviewed the following protocol:

Type of Submission:	Continuing Review
Review Category:	Expedited - Category 7
Title:	Resilient Cities
Investigator:	Goldstein,Bruce
Protocol #:	14-0673
Funding:	None
Documents Reviewed:	HRP-212: FORM - Continuing Review;

The IRB approved the protocol from **17-Dec-2015** to **16-Dec-2016** inclusive.

Before **16-Nov-2016**, you are to submit a completed FORM: Continuing Review (HRP-212) and required attachments to request continuing approval or closure. This protocol will expire if continuing review approval is not granted before **16-Dec-2016**.

Click the link to find the approved documents for this protocol: Approved Documents. Use copies of these documents to conduct your research.

In conducting this protocol you must follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,
Douglas Grafel
IRB Admin Review Coordinator
Institutional Review Board

APPENDIX E

UNIVERSITY OF COLORADO IRB

CONTINUING REVIEW LETTER OF APPROVAL (2016)

University of Colorado Boulder

APPROVAL

07-Dec-2016

Dear Mr. Goldstein,
On **07-Dec-2016** the IRB reviewed the following protocol:

Type of Submission:	Continuing Review
Review Category:	Expedited - Category 7
Title:	Resilient Cities
Investigator:	Goldstein, Bruce
Protocol #:	14-0673
Funding:	None

The IRB approved the protocol from **07-Dec-2016** to **06-Dec-2017** inclusive.

Before **6-Nov-2017**, you are to submit a Continuing Review and required attachments to request continuing approval or closure.This protocol will expire if continuing review approval is not granted before **06-Dec-2017**.

Click the link to find the approved documents for this protocol: Summary Page Use copies of these documents to conduct your research.

In conducting this protocol you must follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,
Douglas Grafel
IRB Admin Review Coordinator
Institutional Review Board