Because we are rapidly becoming a more multicultural society, the importance of research on diverse groups cannot be overestimated (Sue & Sue, 2003). Hence, the study of diverse groups should avoid approaches that contribute to their marginalization. Moreover, the use of purely quantitative approaches, in which the relationship between the researcher and participants is distant, can isolate ethnocultural communities (Jacklin & Kinoshameg, 2008). In contrast, community-based research illustrates a useful approach for studying ethnocultural populations because of the close collaboration between researchers and participants (Radda, Schensul, Disch, Levy, & Reyes, 2003). Such collaboration can flow among many stages of research, such as getting to know the community, planning and implementing the process, and evaluating the impact of a program on the community (Stoecker, 2005).

Community-based studies have incorporated both quantitative and qualitative methodologies. As such, community-based research holds the potential for being framed as mixed methods research and, even more specifically, community-based mixed methods research (CBMMR). Such framing means that systematic procedures exist for integrating the qualitative and quantitative data, for designs to plan the projects, and for providing detailed procedures in
conducting the studies. The benefits of using multiple methods in community-
based research have been explored by previous scholars (e.g., Kidder & Fine, 1987; Sirin & Fine, 2008; Strand, Marullo, Cutforth, Stoecker, & Donohue, 2003). However, no systematic approach to integrating community-based
research and the most up-to-date mixed methods research was found. This
chapter seeks to serve as a practical template for such integration.

We first review community-based research and note models being used
in this form of inquiry. Then we introduce mixed methods research noting
procedures for integrating qualitative and quantitative data and several pop-
ular designs used in this integration. Next, we advance 10 illustrative empir-
ical community-based studies in which both qualitative and quantitative data
were collected. As we reviewed these studies, we noted how both forms of
data were incorporated into the studies, how mixed methods features were
included, and how these features were added within the stages of the Stoecker
(2005) model of community-based research. We end the chapter with spe-
cific recommendations for framing community-based studies as mixed meth-
ods research. We state that these recommendations and the combination of
mixed methods and community-based research will enhance research with
ethnocultural populations and provide new tools for research.

COMMUNITY-BASED RESEARCH STUDIES

Community-based studies are often used to study ethnocultural, ethno-
linguistic, and multicultural groups (Jacklin & Kinoshameg, 2008; Mosavel,
Simon, van Stade, & Buchbinder, 2005; J. J. Schensul et al., 2006; S. L.
Schensul, Nastasi, & Verma, 2006; Teufel-Shone, Siyuja, Watahomigie, &
Irwin, 2006; Westhues et al., 2008; Woods, 2009). By definition, community-
based research refers to the “process that brings researchers and community
members together to collaboratively conduct research on a problem of con-
cern to the community” (Radda et al., 2003, p. 204). The term has also been
used interchangeably with approaches such as participatory research, action
research, and community-based participatory research, approaches that all
share the common purpose of addressing the unmet needs of a community
through research (Taylor et al., 2004). As opposed to traditional forms of
research, community-based studies are unique in that the emphasis is placed
on the egalitarian collaboration between researchers and community mem-
bers and the shared quest to address a community issue (e.g., Harris, 2006; for
a more detailed understanding of the tenets of community-based research, see
Israel, Schulz, Parker, & Becker, 1998). In the field of psychology as well as
health sciences in general, community-based research is rooted in advocacy
and social justice for populations and communities and the needs of individ-
uals who have been underserved. Thus, it is an ideal fit for understanding ethnocultural populations that have traditionally been marginalized.

In terms of the existing community-based research studies conducted with ethnocultural communities, there are limitations that must be noted. To begin with, it is not always the case that theoretical models are used. Furthermore, when theoretical models are used to frame the research study, they have been discipline specific. For example, the models discussed by Mosavel et al. (2005); S. L. Schensul et al. (2006); and Woods (2009) pertained only to community-based health research. Similarly, Jacklin and Kinoshameg (2008) referred to their use of a “community centered praxis” (p. 54), which was a combination of critical medical anthropology and participatory action research.

Scholars in the literature have also highlighted methodological difficulties and called for a need to reevaluate traditional forms of research, especially for ethnocultural populations (e.g., Boynton, 2002; Keys, McMahon, Sanchez, London, & Abdul-Adil, 2004; Robins et al., 2008; Sasao & Sue, 1993; Sterk & Elifson, 2004; Taylor et al., 2004; Trimble & Fisher, 2006; Zeller, 1993). Community-based researchers have responded to the call for nontraditional research by expanding beyond traditional research procedures to collect both qualitative and quantitative data (Aronson, Wallis, O’Campo, Whitehead, & Schafer, 2007; Naylor, Wharf-Higgins, Blair, Green, & O’Connor, 2002; S. L. Schensul et al. 2006; Sirin et al., 2008; Sirin & Fine, 2007; Westhues et al., 2008; Woods, 2009). These authors often cite the many advantages to collecting quantitative and qualitative data in community-based research (Andrew & Halcomb, 2006; Axinn & Pearce, 2006; Jacklin & Kinoshameg, 2008; Linney, 2000; Sirin & Fine, 2007; Yardley & Bishop, 2008; Zeller, 1993). Strand et al. (2003) provided a powerful rationale for gathering both qualitative and quantitative data (and thus using mixed methods) in community-based studies:

For those used to being quantitative or qualitative researchers, [community-based research] is both and neither. In the real world, philosophical differences over whether cold statistics or richly detailed stories provide better information are irrelevant. What matters is what information is needed to contribute to the social change effort, and this often calls for multiple methods of data collection. (p. 78)

Similarly, Sirin and Fine (2008) argued that in recent years, “working across methods” allowed them to conduct research that they consider “empirically valid and historically meaningful. More than ever, we believe that there is indeed no methodological justification to limit ourselves to a single, ‘fixed methodology’” (p. 24).

Several advantages exist for combining the quantitative “cold statistics” and the qualitative “richly detailed stories.” Such a combination has the
advantages of being favorable to community members, allowing the community to have greater control and power in the research process, reducing survey error, providing stronger evidence, addressing weaknesses of any one approach, and disseminating the findings in a more accessible way (Axinn & Pearce, 2006; Jacklin & Kinoshameg, 2008; Yardley & Bishop, 2008). With funding agencies increasingly emphasizing mixed methods research, the use of combined qualitative and quantitative approaches enlarges the amount of evidence available to understand complex research problems (Creswell & Plano Clark, 2011). Thus, building on the current practices of gathering both forms of data in a community-based study and taking advantage of the strengths of each naturally leads to the use of mixed methods research.

MIXED METHODS RESEARCH STUDIES

Mixed methods research involves the collection, analysis, and mixing of both qualitative and quantitative data in a single study or a multiphase program of inquiry (see Creswell & Plano Clark, 2011). It includes persuasive and rigorous qualitative and quantitative procedures, the use of worldviews to provide a foundation for the research, and the application of specific types of designs. Different forms of relating the qualitative and quantitative data can be shaped into specific research designs. Many types of designs have been advanced in the mixed methods literature since the late 1980s (e.g., Greene, Caracelli, & Graham, 1989; Morse, 1991; Tashakkori & Teddlie, 1998). Creswell and Plano Clark’s (2011) classification system includes six major types of designs and provides a parsimonious, workable set of designs currently used in the mixed methods field. Although each of these is briefly introduced here, readers are encouraged to refer to Creswell and Plano Clark (2011) for an in-depth understanding of mixed methods research.

A key to understanding these designs is to consider whether the investigator collects the quantitative and qualitative data concurrently (at roughly the same time) or sequentially (with one database following another). A popular concurrent design is the convergence parallel design, which involves collecting both quantitative and qualitative data separately and independently and then merging the two forms of data at the same time to understand a research problem or question. The explanatory sequential design involves collecting data sequentially with the first phase as a quantitative phase and the second phase as a qualitative phase. The intent of this design is that the second phase qualitative data helps to explain the first phase quantitative results. The exploratory sequential design also involves collecting data sequentially but in an order reversed from the explanatory sequential design. In the exploratory design, the investigator begins by collecting and analyzing
qualitative data, and this is followed by a second phase of collecting and analyzing quantitative data. The key idea here is that an initial qualitative exploration can help to best develop a quantitative assessment that might be generalized to a large sample of a population. The embedded design is another design used by the mixed methods researcher in collecting and analyzing both concurrent and sequential data. In this design, a secondary database provides support for a primary database to develop a more complete understanding or to facilitate the use of the primary database. A transformative design can also employ quantitative and qualitative data concurrently or sequentially. In this case, a transformative perspective surrounds all phases of the mixed methods design and provides a lens for the study as well as a framework for providing suggestions for change. A final type of mixed methods design is the multi-phase design, which involves multiple phases or projects conducted over time with both concurrent and sequential data collection and analysis procedures. An example of this design would be the multiproject evaluation studies in which both quantitative and qualitative data are collected and analyzed through the stages of a needs assessment, the development of an intervention program, and the assessment of the program. These six designs thus became the mixed methods approaches that were salient in our examination of community-based studies.

A REVIEW OF MIXED METHODS COMPONENTS IN COMMUNITY-BASED RESEARCH STUDIES

We conducted a literature review to identify community-based studies that involved the collection and analysis of both forms of data. Using the search terms mixed methods, community-based research, ethnocultural, and methodology, we sought to identify studies that were community-based and that included quantitative and qualitative data collection and analysis. However, because the term ethnocultural did not yield any studies that were both community-based or mixed methods research, we expanded our inclusion criterion to larger populations, taking into consideration ethnically diverse communities at the lower end of the socioeconomic scale.

Incorporation of Qualitative and Quantitative Data

As shown in Table 3.1, we found 10 community-based studies that collected qualitative and quantitative data. In these studies, the type of data collected was overwhelmingly qualitative. Of 46 instances of data collection, 36 were qualitative. These researchers used a wide variety of strategies. The most common qualitative type of data collection were interviews (12 of 36),
### TABLE 3.1
Mixed Methods Characteristics of the Community-Based Mixed Methods Research Articles

<table>
<thead>
<tr>
<th>Source</th>
<th>Community</th>
<th>Qualitative</th>
<th>Quantitative</th>
<th>Timing</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aronson et al., 2007</td>
<td>Recipients of community-based program</td>
<td>Focus groups, key informant interviews, neighborhood mapping, journals</td>
<td>Community surveys</td>
<td>Sequential</td>
<td>Evaluating</td>
</tr>
<tr>
<td>Jacklin &amp; Kinoshameg, 2008</td>
<td>Wikwemikong Indians</td>
<td>Extensive participant observation</td>
<td>Community needs assessment survey</td>
<td>Concurrent</td>
<td>Connecting, diagnosing</td>
</tr>
<tr>
<td>Mosavel et al., 2005</td>
<td>South Africans</td>
<td>Focus groups, informal interviews</td>
<td>Surveys</td>
<td>Concurrent</td>
<td>Connecting, diagnosing</td>
</tr>
<tr>
<td>Naylor et al., 2002</td>
<td>Recipients of community-based health intervention</td>
<td>Focus groups</td>
<td>Worksheet</td>
<td>Concurrent</td>
<td>Evaluating</td>
</tr>
<tr>
<td>Radda et al., 2003</td>
<td>Older urban adults in high-HIV-risk neighborhoods</td>
<td>Ethnographic documentation of buildings and neighborhoods, observations, informal interviews, semistructured interviews</td>
<td>Epidemiological survey</td>
<td>Concurrent</td>
<td>Diagnosing</td>
</tr>
<tr>
<td>J. J. Schensul et al., 2006</td>
<td>Low-income Indian men</td>
<td>Elicitation techniques, oral history, ethnographic interviews and observations, semistructured, in-depth interviews</td>
<td>Standardized screening tools</td>
<td>Sequential</td>
<td>Diagnosing, evaluating</td>
</tr>
<tr>
<td>S. L. Schensul, Nastasi, &amp; Verma, 2006</td>
<td>Low-income Indian men</td>
<td>Key informant interviews, in-depth interviews, social and geographic mapping</td>
<td>Survey</td>
<td>Sequential</td>
<td>Diagnosing</td>
</tr>
<tr>
<td>Teufel-Shone et al., 2006</td>
<td>Hualapai</td>
<td>Semistructured interviews, self-assessment tool</td>
<td>Locally generated environmental inventory</td>
<td>Concurrent</td>
<td>Diagnosing</td>
</tr>
<tr>
<td>Westhues et al., 2008</td>
<td>Five ethnic groups</td>
<td>Semistructured interviews, focus groups</td>
<td>Survey</td>
<td>Concurrent</td>
<td>Diagnosing</td>
</tr>
<tr>
<td>Woods, 2009</td>
<td>Black Americans</td>
<td>Key informant interviews and focus groups</td>
<td>Survey</td>
<td>Concurrent</td>
<td>Prescribing/implementing</td>
</tr>
</tbody>
</table>
followed by focus groups (five of 36), and observations (three of 36). Researchers described their interviews as “ethnographic” (J. J. Schensul et al., 2006), “in-depth” (J. J. Schensul et al., 2006; S. L. Schensul et al. 2006), “informal” (Mosavel et al., 2005; Radda et al., 2003), and “semistructured” (Radda et al., 2003; J. J. Schensul et al., 2006; Teufel-Shone et al., 2006; Westhues et al., 2008). Several researchers mentioned that their interviews were with “key informants” (Aronson et al., 2007, p. 103; S. L. Schensul et al., 2006, p. 102; Teufel-Shone et al., 2006, p. 1623; Woods, 2009, p. 258). Several researchers collected qualitative data about community neighborhoods. Radda et al. (2003) used ethnographic documentation of buildings and neighborhoods. Aronson et al. (2007) engaged in neighborhood mapping, whereas S. L. Schensul et al. (2006) used social and geographic mappings of communities. There were several other types of qualitative data collected, such as elicitation techniques (J. J. Schensul et al., 2006), journals (Aronson et al., 2007), a self-assessment tool that involved group discussions (Teufel-Shone et al., 2006), and oral history (J. J. Schensul et al., 2006).

The remaining instances of data collection were quantitative (10 of 46). The most common type of data was surveys (seven of 10; for an example, see Westhues et al., 2008). Surveys were further described as community (Aronson et al., 2007) or epidemiological (Radda et al., 2003). The community needs assessment survey used by Jacklin and Kinoshameg (2008) contained open-ended items in addition to quantitative items. Other forms of quantitative data include a locally generated environmental inventory (Teufel-Shone et al., 2006), standardized screening tools (J. J. Schensul et al., 2006), and a worksheet (Naylor et al., 2002). Thus, the trend we identify in community-based studies is collecting primarily qualitative data, and the studies we found only collected one form of quantitative data per project.

Mixed Methods Components Incorporated Into Community-Based Studies

We analyzed the empirical articles according to mixed methods criteria set forth by Creswell and Plano Clark (2011): whether the researcher specifically identified a mixed methods design, whether they provided a rationale for collecting multiple forms of data, and whether they presented detailed procedures in their methodology sections.

Creswell and Plano Clark (2011) recommended describing a study in mixed methods terms and specifying the type of mixed methods design used. In the 10 studies we found, only three used the term mixed methods (see, e.g., S. L. Schensul et al., 2006). Additionally, only two articles addressed the type of mixed methods design. Woods (2009) used an exploratory sequential design (see Creswell & Plano Clark, 2011) and Westhues and colleagues (2008) described their design as a “collaborative mixed method participatory
action research design” (p. 702) that was exploratory and qualitatively driven. However, none of the researchers provided detail on the design or their reasons for using it.

We also examined the studies to determine whether the authors provided a rationale for collecting both qualitative and quantitative data. Although community-based researchers typically explained why they collected individual forms of data, most did not explain why they collected multiple types of data. Even when the researchers did mention their rationale for mixing, they did not provide much detail. For example, Naylor et al. (2002) indicated that they expanded their quantitative study to include qualitative approaches to improve “community receptivity” but did not provide further information (p. 1175). The emergent nature of data collection was also indicated by some but not other researchers. For instance, Woods (2009) explained that the community determined what forms of data to collect. Similarly, J. J. Schensul and colleagues (2006) described how their lead agency of the study contributed to the mixed methods experience.

Finally, Creswell and Plano Clark (2011) emphasized that researchers should report detailed procedures and suggested creating a visual diagram of procedures. Few community-based studies reported detailed procedures. However, there were exceptions. Aronson et al. (2007) included tables of their data collection and the purposes for collecting each form of data. Westhues et al. (2008) provided detailed descriptions of their data collection procedures. Although they did not provide a diagram of their procedures, they did include a table of the conceptual framework for their focus groups.

Although rigor is advanced as a core element of mixed methods research (Creswell & Plano Clark, 2011) based on design, the rationale for collecting multiple forms of data, and the detailed procedures, rigor was not apparent in the community-based studies we reviewed. This led us to inquire further as to the use of qualitative and quantitative data in community-based studies and to make suggestions as to how they might be framed within mixed methods designs.

Framing Mixed Methods Designs Within a Community-Based Theoretical Model

One community-based theoretical model seemed attractive for examining the integration of multiple forms of data and mixed methods designs. The model by Stoecker (2005) referred to collecting multiple forms of data, applying the data across disciplines, and encompassing stages that complemented the empirical studies we had identified in the literature. Thus, we propose an adaptation of Stoecker’s model for conducting CBMMR, as shown in Figure 3.1. We made two modifications in Stoecker’s model to better reflect
the community-based studies we had seen in the literature. Stoecker’s original model included four stages: diagnosing, prescribing, implementing, and evaluating. However, we decided to combine prescribing and implementing into one stage and to add two stages that highlight starting and ending a CBMMR project: connecting and disseminating. Thus, in building on Stoecker’s work, the stages that we describe are the following: connecting, diagnosing, prescribing–implementing, evaluating, and disseminating.

Connecting Stage

Stoecker (2005) stated that one of the first steps a community organizer must take is getting to know the community. He proposed diagnostic research such as knocking on residents’ doors to ask what concerns them and identifying the community’s most concerned members. In practice, community-based researchers have expanded on this initial step to describe a lengthy process of developing lasting relationships built on trust and ongoing communication before diagnosing. In Figure 3.1, this stage is exemplified by a circle to
indicate that it is a dynamic, constant process. Thus, the connecting stage is a relationship-building stage characterized by interactions with community.

Because it is easy for researchers to misinterpret the community’s intentions, concerns, language, or other ethnocultural aspects, we recommend that researchers consistently use strategies in this stage to understand their biases. It is likely that formal research cannot be done immediately. However, mixed methods researchers can use other methods by checking with community members and stakeholders, keeping journals, and bracketing as Mosavel et al. (2005) did in their study on an underprivileged community in Cape Town, South Africa. Being flexible and patient is crucial in connecting. At this stage, we recommend unobtrusive observations. Jacklin and Kinoshameg (2008) used this approach in their study with Wikwemikong Indians in Ontario, Canada. Informal interviewing can also be used (see Mosavel et al., 2005). The connecting phase is especially important in communities that are mistrustful of research or universities (Jacklin & Kinoshameg, 2008; Mosavel et al., 2005). If the researcher does use quantitative methods, they should be informed by the qualitative findings. One potential design is the exploratory sequential design with the intent of developing an instrument (Creswell & Plano Clark, 2011). In the first phase the researcher qualitatively explores the topic and in the second phase uses the qualitative findings to develop items for a quantitative survey and then administers the survey. Although we did not find an empirical example of this design, we believe it would be a good fit for this stage.

Diagnosing Stage

Diagnosing involves exploring the community’s concerns to understand their key problems and to identify opportunities for change (Stoecker, 2005). The purpose of diagnosing is twofold: to assess individuals and their environments. Particularly for ethnocultural communities, understanding the context of the participants’ experiences is important. Qualitative approaches to data collection can include focus groups, which help to provide understanding of the community’s perspectives in a social setting. Focus groups may also feel more comfortable as an initial form of data collection, as in Westhues et al.’s (2008) study with five ethnocultural groups in Ontario, Canada. They selected focus groups because they contribute to “multimethod, multiperspective theory building . . . while engaging multicultural community participants in an interactive data collection method” (p. 707). Westhues et al.’s study of five ethnocultural groups provide an example of this diagnosing using mixed methods research. They conducted focus groups to explore viewpoints on mental health problems, interventions, and services that were needed. They also administered a survey that included open-ended items to study the organizations’ perceptions of how well they were responding to the communities’ needs. They used their quantitative analysis of the survey to confirm their focus group findings.
With regard to the mixed methods design that is most suitable for diagnosing, an embedded design is useful because researchers can remain open to the needs of the community while supplementing their conclusions with quantitative data. By embedding quantitative data into qualitative data, it seems that a more comprehensive diagnosis of the community’s issue can emerge. On the other hand, by building on qualitative research to develop quantitative surveys, Teufel-Shone et al.’s (2006) study demonstrates how the sequential design can be used when a culturally sensitive assessment is needed. Their project is an example of developing survey questions that emerge from the community. Even more specifically, they used locally generated surveys to understand the Hualapai community in northwest Arizona. Developing culturally sensitive measures is crucial for ethnocultural groups that have traditionally been marginalized.

Prescribing and Implementing Stages

The second and third stages of Stoecker’s (2005) model are prescribing and implementing, and they are discussed together because of their intersecting nature. The prescribing stage refers to the research planning that is required before conducting the study and finalizing the study design. The next stage is implementing, and the research itself becomes the project, serving as both the process and outcome goal. Because few examples were found in the extant literature on prescribing and implementing, only two empirical examples are presented, both of which are exemplars of how the prescribing and implementing process can look in a community-based mixed methods study.

Prescribing, known as the research planning process, has to do with the preparations that are necessary before carrying out a research study. Prescribing can also be described as planning and is the effort of matching the community needs with practical considerations such as whether the research goal is directly relevant and compatible with the community. Information gathering plays a critical role in this stage and includes literature reviews as well as gathering different sources of knowledge about the study content. In the prescribing process, the goal for making social change research must also be clarified, either as internally (i.e., community-betterment) or externally focused (i.e., advancement of existing policies).

The prescribing/implementing stage involves doing the operational research on an intervention, and then developing the intervention and putting it into practice. Although the need for a thorough literature review is a necessity in every research endeavor, conducting CBMMR requires an even more comprehensive examination and review of (a) the needs of the community (which is separate from the research on intervention), (b) the topic of study as it relates to other communities with similar ethnographic profiles and needs, and (c) the applicability and interaction of both. A thorough literature
review may not always be feasible because of limitations such as community considerations, funding, and project timeline. One possible design is an exploratory sequential design. Researchers can apply this approach by using the initial quantitative data collection to inform the second, qualitative phase.

As for the implementing stage, Woods’s (2009) study about engaging African American communities in health planning serves as an ideal example of research being the action in the study. The research project becomes the intervention in asking the question, “How can we get African Americans involved in research and prevention activities” (p. 247)? Furthermore, the author explicitly identifies the purpose and process of this project in the abstract, such that “The African American Health Initiative represents an answer to this question and is in many ways a success story of a local Black population that willingly engaged in health planning through a community-based participatory research process. As a success story, the research project served to advocate for the engagement of African American communities to be involved and collaborative in health planning” (p. 247).

In Woods’s (2009) study, multiple perspectives and methods of data collection were used, with the voices serving to empower the community and with the involvement itself being the act of empowerment. Although not stated by the researcher, this project fits within the framework of the transformative design, in which the research itself is aimed to make significant social changes for marginalized populations. In addition to the long-lasting changes of the research even after the study was completed, it is clear that Woods’s study is guided by the purpose of highlighting the marginalization of African Americans in health planning and that this theme is central across all of the phases of the research project, from the introduction to the end. Even in the conclusion of the study, Woods advocated for addressing the needs of African Americans, underscoring the limitations of the health care system for this particular group of individuals.

In the Woods (2009) study, it is evident that both the quantitative and qualitative methods used in this study were able to contribute to advancing the needs of a specific community while also generalizing to larger communities. The implications of this study underscore the uniqueness of mixed methods research and, more specifically, CBMMR because of the ways in which the quantitative and qualitative findings were able to advance one community. If the study had been purely qualitative or quantitative, the findings would not have attended to the specific needs of one particular African American community and give voice to the people who have not been heard or asked about their health planning. At the same time, however, it is because of the quantitative data in this study that there is greater understanding of the health issues and barriers for the African American community and the pos-
sibility of generalizing the findings from this study to other marginalized groups and communities. Altogether, integrating both quantitative and qualitative data in this study demonstrated the powerful nature of gathering multiple perspectives through multiple sources in one phase to empower a community through the research process.

**Evaluating Stage**

Evaluating a study consists of assessing the intervention’s impact on the community. Stoecker (2005) stated that the purpose of evaluating an intervention is to improve implementation, and thus the stages in Figure 3.1 are linked by double arrows. Focus groups were recommended at the evaluating stage (for an example, see Naylor et al., 2002). This type of data collection provided a way for the community to discuss their shared experiences of the intervention. One example was Aronson and colleagues’ (2007) use of focus groups to identify contextual variables and neighborhood features and explore perceptions of local concerns, strengths, and salient beliefs of recipients of community-based programs in underserved areas of Baltimore. Quantitative data recommended at this stage were surveys that indicate how participants have changed. Naylor et al.’s (2002) worksheet examined participants’ perspectives on a health intervention in British Columbia, Canada. Especially helpful are pre- and postintervention surveys. Thus, one design that fits this stage is the embedded design within an experimental framework (Creswell & Plano Clark, 2011). Basically, the data process would consist of qualitative data in a supporting role in an experimental design. However, CBMMR studies with strong quantitative components should be conducted with caution because they can potentially result in the community’s inability to determine its own realities (Jacklin & Kinoshameg, 2008). Thus, the embedded design within an experimental framework should be used only when trust has been generated within the community and depth of understanding about its members have been gained.

**Disseminating Stage**

Community partners have expressed concern over lack of use of research results (Jacklin & Kinoshameg, 2008). For this reason, disseminating is essential to community-based research. Disseminating the findings includes assessing the influence of the study on the community members. In our model, disseminating might occur at two points: at the diagnosing stage and with the community at the end of the project. The process should be circular and iterative and should respond to the needs of the community. Second, it should produce social change at the community level and within the sociopolitical contexts in which community members reside. An example of
disseminating is in Woods's (2009) study on African American health planning. Following the completion of the research project, the findings continued to affect the community through the formation of committees and nonprofit organizations aimed to create self-help programs communities. Furthermore, the knowledge gained with this community was even adapted by another ethnic minority group—thus influencing multiple communities beyond the one that was studied.

Qualitative interviews could explore what elements of disseminating the findings were most beneficial to community members. A follow-up quantitative survey could investigate the generalizability of those helpful elements. Thus, an exploratory design with the intent of developing a taxonomy can be used by qualitatively exploring a topic followed by disseminating it in a way that is effective to participants. These findings can then guide the development of items for quantitative survey.

Altogether, framing a project as mixed methods would enhance the use of rigorous procedures in community-based research. It could also provide models for conceptualizing studies for members of a research team, community members involved in the project, and policy makers who need to support the project.

RECOMMENDATIONS

On the basis of our analysis, we offer the following recommendations for researchers interested in conducting CBMMR.

Specify the Research Design

We recommend that researchers in community-based projects describe their methods in detail. Although researchers collected both forms of data, they generally elaborated on only one form in their results section (Radda et al., 2003; Westhues et al., 2008), with some exceptions (e.g., Woods, 2009). Also, it would benefit readers to cite a mixed methods design, such as Woods’s work (2009), which was self-identified as a “mixed-method exploratory sequential” study (p. 254). Such an explicit description of the research design not only helps to inform the reader of the procedures of the study but also allows for study replication to encourage researchers to build on the current study in other communities or content areas. Furthermore, it may help community-based researchers be more mindful of the mixed methods aspects of their projects.

Explain the Value of Each Data Source

Because the results from community-based research studies have implications for policies, practices, and communities, we suggest that researchers
articulate how each form of data they collect contributes to the study findings. Westhues et al.’s (2008) study serves as an example because they described what their study gained from the qualitative and quantitative findings. They subsequently highlighted the advantages of collecting both qualitative and quantitative data through triangulating different sources of data, having one source complement the other, and gaining new insights through a dialectic approach. In some of the studies in which recommendations were presented, the suggestions advanced by the researchers seemed to be driven only by the qualitative findings (e.g., Radda et al., 2003). Generalizing the findings to other communities may therefore be inappropriate given that the qualitative research provides depth, whereas quantitative research can generalize the study findings. If authors are more intentional about their designs, their use of mixed methods will carry more weight and can be replicated and advanced in theory and practice.

**Explain the Purpose of Using Multiple Forms of Data**

Consistent with our previous recommendation, we urge researchers who are conducting CBMMR to specify their reasons for collecting multiple forms of data and to explicitly explain their rationale in each step of their research process, beginning at the research design stage to the discussion section. By being more explicit about the research design, readers can provide a better understanding of how the different forms of data serve to answer the research question(s) (see S. L. Schensul et al., 2006) as well as the benefits of using mixed methods approaches in a community-based study (Jacklin & Kinoshameg, 2008). In addition, justifying the use of a mixed methods approach in the discussion section can underscore the value of using multiple methods to arrive at multiple perspectives and multidimensional findings.

**Use Different Mixed Methods Research Designs**

We believe that there is a wide array of research designs that can be used. In particular, the multiphase design seems to be underused in community-based research and yet ideal for CBMMR because of its longitudinal nature as well as the ability to combine concurrent and sequential data collection. Conducting a community-based study using a multiphase design can encompass several stages of community-based research, such as connecting, diagnosing, and prescribing/implementing. Several community-based studies did, in effect, implement a multiphase design (see Jacklin & Kinoshameg, 2008; Mosavel et al., 2005). We believe that a multiphase design would allow for more breadth as well as depth of the study content and allow expand on the current research designs to best address the needs of the ethnocultural community.
Integrate Mixed Methods With Community-Based Research

Finally, with regard to our recommendations for conducting CBMMR, we advocate for more discussions and dialogues regarding the use of mixed methods in community-based research and of the applicability of conducting community-based projects in mixed methods research. In our process of identifying studies that explicitly addressed and met the criteria of being both a community-based study and a mixed methods research study, we found that there was minimal overlap in the existing empirical database. Rarely did we see the term mixed methods in any of the literature on community-based research, although the issue of methodology, as a whole, was popularly discussed as it relates to community-based research. We understand that in conducting community-based research, the logistical challenges along with ethical dilemmas faced by researchers and community members can be daunting and overwhelming; thus, writing about the methodologies may seem excessive. At the same time, however, we underscore the value of elaborating on the research design and rationale of a study, given its direct impact on the research question and the goals of the study.

An argument against the present approach is that community-based researchers cannot emphasize methodology above the rights of the community. We wholeheartedly agree that the rights of the community members must be respected at all times. However, we believe that, when possible, rigorous data collection, analysis, and mixing should be employed. There are several reasons for this position. First, detailing methods can provide guidance to others who want to work within that community or similar communities. Second, making the most of mixed methods designs ensures that researchers are using the information they glean to the fullest. The way that research is conducted is an important element, and so are the participants’ responses to the different methods. Third, the use of rigorous mixed methods may be favorable if the research is related to policy (Jacklin & Kinoshameg, 2008). Furthermore, we argue that both the research and the intervention should be consistently reevaluated.

The aim of this chapter was to offer a unique contribution to the literature by highlighting approaches to incorporating mixed methods research into community-based studies. Our chapter combined mixed methods with community-based approaches to provide theoretical and practical guidance. Theoretically, our CBMMR model provided a conceptual framework for understanding CBMMR. Practically, we guided researchers by highlighting specific data collection and mixed methods strategies and designs. By adapting an existing community-based model to highlight the importance of mixed methods in community-based research, we sought to provide a systematic approach to conducting CBMMR. It is hoped that the strategies provided in
the model can serve as tools for community-based researchers at all experience levels. Although much has been done in the existing empirical studies that we reviewed, we used our analysis of the current empirical studies to offer suggestions for ways that community-based researchers can employ mixed methods into their studies. We believe that CBMMR can be a valuable methodological and research approach to address social concerns and advance a unique conversation about the intersection of mixed methods and community-based research.

REFERENCES


