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Definition and operationalization of resilience in qualitative health literature: a scoping review

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ABSTRACT
Resilience is a burgeoning focus in health research; yet, researchers have varying conceptual and methodological approaches to understanding resilience across populations. Consequently, there is little consensus on the definition or operationalization of resilience. The objective of the present study was to conduct a scoping review of qualitative health research from the United States to connect methodological approaches with operationalization and definitions. From our initial database search of 2,142 articles, we reviewed 29 articles that met the criteria for assessment. Our review revealed: (1) definitions of resilience followed two main pathways pursuing broad or context-specific definitions and (2) operationalization originated from previous research or developed during data collection and/or analysis using emic approaches. We offer a conceptual mapping of resilience and argue that researchers should attend to the emergence of resilience in their study population and give greater consideration to the implications of methodologies for future research.

KEYWORDS
Resilience; methodology; scoping review; definition; operationalization

Introduction

Individuals experience a variety of difficulties, stressors, and tragedies over the life course. Bonanno and Mancini (2008) assert that most adults will experience at least one potentially traumatic event. 'Potentially' highlights individual differences in appraisal and response. For example, one adverse event may trigger the onset of trauma symptoms for one person but not for another (Fletcher & Sarkar, 2013). The study of psychological resilience, which explores how individuals recover from or adapt to stress and restore mental, psychological and emotional balance, helps us understand these differences. Psychological resilience, however, is a complex construct with varying definitions, conceptualizations, and applications in the literature (for a review, see Fletcher & Sarkar, 2013). The variety of resilience contexts (e.g. educational (Brewer et al., 2019), environmental (Lin, 2011), community (Okvat & Zautra, 2011), organizational (McManus et al., 2008), or engineering resilience (Fletcher & Sarkar, 2013; Hollnagel et al., 2006) further muddles its meaning and application.

Early resilience research marked the shift away from clinical-based assessments of disease to focus more on stress management and recovery in response to traumatic life events (Rak & Patterson, 1996). This new emphasis shifted theoretical, empirical and policy debates to health, thriving, and protection, and away from illness, vulnerability and deficit (O'Leary, 1998); thereby reflecting a strength-based approach to trauma and adversity. Formerly examined as a personality

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trait (Fletcher & Sarkar, 2013), resilience is now largely viewed as a dynamic, multidimensional process focused on adaptation to stress or change in response to significant adversity (Fergus & Zimmerman, 2005; Herrick et al., 2014); including the ability to access and use 'available internal and external resources' (Pooley & Cohen, 2010, p. 34).

Health and resilience research linkages have burgeoned since the 1990s (Luthar et al., 2000), due in part, to its importance for supporting positive mental health outcomes following adversity. Currently, numerous disciplines use resilience in population research, particularly in vulnerable groups (e.g. immigrants (Gray et al., 2015), those experiencing HIV (Bletzer, 2007), substance abuse (Veselska et al., 2009), sexual assault (Steenkamp et al., 2012), homelessness (Kidd & Shahar, 2008), and foster care (Daining & DePanfilis, 2007). As a result, increasingly research encourages understanding how resilience buffers the effects of trauma and adversity on health, and the importance of population-specific interventions targeting unique traumatic exposures, such as the co-experience of homelessness and maltreatment (Dang, 2014). Existing literature also emphasizes the need to tailor resilience interventions to specific health outcomes associated with stressful life events, such as chronic depression (Waugh & Koster, 2015).

The Problem with Resilience

Literature focused on resilience lacking key elements of definition and operationalization hinders the potential for future research to build on existing knowledge, compromising the development of scientific knowledge. Although researchers widely acknowledge that both adversity and positive adaptation are inherent to resilience (Fletcher & Sarkar, 2013), there is no consensus on a universal definition or specific attributes (Grant & Kinman, 2013), which complicates the measurement of resilience. One perspective stipulates resilience within every person while another suggests only some people are born resilient and others have potential that may be used to foster resilience. While a significant body of literature defines resilience in terms of a return to baseline functioning, others depict resilience as growth above and beyond an individual's 'baseline' prior to the stressful life event. Researchers describe an ever-growing variety of component concepts that build resilience, including spirituality (Manning, 2013), social support (De Santis & Deleon, 2013), self-esteem (J. Li et al., 2018), optimism (Emlet et al., 2011), and sense of purpose (Mealer et al., 2012), among others. Resilience reviews with both quantitative and qualitative research can muddy epistemological standpoints (i.e., positivist versus anti-positivist), and quantitative and qualitative approaches were incommensurable (Massé, 2000). Failure to understand convergences and divergences within literature on health and resilience may challenge the opportunity to capitalize on existing scientific knowledge and inform further conceptual development.

The Current Study

The purpose of this scoping review is to explore definitions and operationalizations of resilience and the degree to which participants' lived experiences inform these operationalizations within health research. Two research questions guided this study: 1) How is resilience defined and operationalized in qualitative health research?; 2) How do methodology and operationalization of resilience influence each other in qualitative health research?

Methods

Scoping reviews clarify concepts when literature on a topic is complex and/or heterogenous and can 'provide an opportunity to identify key concepts, gaps in the research, and types and sources of evidence to inform practice, policymaking, and research' (Peters et al., 2015). Following the steps delineated by Arksey and O'Malley (2005), used in other scoping reviews (e.g. Lindsay, 2019; Saunders et al., 2019), we (1) developed the research questions, (2) identified relevant literature,

(3) selected eligible studies, (4) charted the data, and (5) collated and summarized the results. The inclusion criteria used to identify literature were intentionally expansive, to would yield articles reporting on a variety of study designs and methodologies (Saunders et al., 2019). Based on other scoping reviews (e.g. Borkhoff et al., 2011; Deshpande et al., 2009), we adapted the third step in Arksey and O'Malley (2005) framework and critically appraised the quality of eligible studies to be used as potential sources of evidence.

Identifying Relevant Literature

Scoping reviews aim to be as broad while identifying literature suitable to address the research questions. We first identified the leading scientific health-based databases (PubMed, PsychINFO, CINAHL). We limited our focus to the last 10 years (2009–2019). Next, we narrowed our focus to resilience and qualitative research using the following key terms: 'Resilien*' in the title AND 'qualitative OR interview OR focus group OR narrative' anywhere in the articles. Our a priori inclusion criteria determined the inclusion of peer-reviewed, English language journal articles with adult samples from the United States.

Selection of Eligible Studies

We conducted several steps of reviews to determine our final sample of articles for data extraction. This included title and abstract review, full-text review, quality assessment, and data extraction.

Title and abstract review. The initial article pool was divided between five authors for title and abstract review. This included reading the title and abstract to determine if the article met the following inclusion criteria:

- Qualitative research only (exclude mixed methods)
- Individual resilience only (exclude dyadic, community, organizational resilience)
- Psychological Resilience (emotion and cognition) as primary variable in context of/relation to health (physical, mental, emotional, and social health)
- Must be US-based population (excluding territories – such as Puerto Rico, Guam)
- The entire sample must be over the age of 18 years (if both adults and children, exclude).

Full-text Review. We obtained full texts of all articles included after title/abstract review. Full-text articles were reviewed for the above inclusion criteria.

Quality Assessment. To conduct quality assessment of the articles remaining, we used the 'Critical Appraisal Skills Program' (CASP) Checklist for Qualitative Research (Critical Appraisal Skills Program, 2020) as seen in other health research (Heydari et al., 2017; Truluck & Leggett, 2016).

Double-coding. To increase the rigor of our article selection process, in each step one author confirmed another author's inclusion and/or exclusion of articles. All articles were determined to remain in the sample after title/abstract review and 10% of the articles were deleted after paired reviews. We calculated interrater reliability.

Data Extraction and Data Charting

The authors developed a standardized data extraction spreadsheet based on the research questions. This process implied dividing the pool of articles deemed eligible for data extraction after full-text review and quality assessment between the five authors, all of whom extracted the data from their articles according to the data extraction spreadsheet individually.

Results

Identification and Selection of Articles

Our initial database search yielded 2,142 articles (Pubmed: 440, PsychInfo: 1,300, CINAHL: 402); 415 of these articles were duplicates and removed. We screened the remaining 1,727 articles for title and abstract review. We calculated concordance and discordance during the abstracts' double-coding stage; the ratio of abstracts the reviewer pairs agreed on ranged from 46%-77% (average 64%). We excluded 1,551 articles in reviewing abstracts, yielding 176 articles for full-text review. Of these 176 articles, 139 were deleted and 37 were included for quality assessment. In total, eight articles were deleted due to quality concerns, the remaining 29 articles were critically appraised and were kept for data extraction.

Descriptive Summary of Review Articles

From the evidence, we charted study population, methodological framework, methods, and theoretical proposition about the relationship between resilience and health. We also detailed the origins of resilience conceptualization, definition, the influence of the conceptualization on methodological approaches, and the degree to which the source article revisited their initial conceptualization. See Table 1 for a descriptive summary of the articles.

Methodological Summary. Grounded Theory Methods (n = 11) and interviews (n = 27) were the dominant methodology and data collection method used. Interviews were either the sole data collection method (n = 22) or used alongside other methods (n = 5) and were conducted using various modes (e.g. face-to-face). Other data collection methods used singly or alongside individual interviews included focus groups (n = 3) and observation (n = 2). Most articles used a single methodology (n = 27). Two others, combined approaches (Elm et al., 2016; Knowles, 2011). Phenomenology was used in six articles, followed by content analysis in four articles. The remaining methodological approaches were rare in our sample and included a general qualitative inquiry (n = 1), content analyses (n = 3), ethnography (n = 1), qualitative description (n = 1), cross-case analysis (n = 1), constant comparative methodology (n = 1), case study (n = 2).

Resilience/Health Nexus. Resilience was either described as *preventative* (such as reducing age-associated health concerns; n = 7); as *buffering the effects* of trauma (e.g. atomic bomb survivors; n = 3); through violence (e.g. sexual and child abuse survivors; n = 3); marginalization stress (e.g. sexual minorities; n = 8); illness (e.g. HIV, dementia; n = 4); bodily injury (e.g. spinal cord injury, burn victims; n = 3); or stress related to caregiving (n = 1).

The link between resilience and health outcomes may be less clearly articulated than how health influences resilience trajectories. The effect of health-related adversity on resilience is clear in articles with populations such as those with a particular illness or injury. (see Spencer-Hwang et al. (2018) for exception). This likely reflects the difference between quantitative research, which looks at the effects of resilience based on measures, and qualitative research, which seems to focus more on what resilience *is*. The ways resilience affects health was often mentioned in the introduction through describing a population's high rates of negative health outcomes, or in the discussion (such as general reductions in psychological distress). Few articles assessed participants' health.

Thematic Analysis

We examined the articles to assess the current theoretical state and methodological understanding and application of resilience within health research – a process that illuminated definitive patterns of discord in the literature. We found two themes that divide empirical and methodological framing of resilience, and thus, may muddle analysis and inhibit the ability to build theory and inform policy and practice. These themes are: (1) definitions of resilience followed two main

Table 1. Descriptive Summary of Reviewed Articles.

Article	Journal Field	Study Population	Sample Size	Qualitative Approach	Data Collection Methods
Abrams et al. (2018)	Social Work	Adult burn survivors living a primarily rural burn center / minimum of 20% total body surface area (TBSA) injuries	N = 8	Heuristic Phenomenological Study	Interviews
Buttram (2015)	Social Work	Substance-using African American/ Black Men who have sex with men	N = 21	Grounded Theory	Interviews
De Santis and Deleon (2013)	Psychiatric and Mental Health Nursing	Adults with HIV infection	N = 15	Qualitative Description with Emic Approach	Interviews
De Santis et al. (2013)	Psychiatric and Mental Health Nursing	Adults with HIV	N = 15	Grounded Theory	Interviews
Elm et al. (2016)	Lesbian Studies	Two-spirit women's resilience in the context of recovery from substance use and mental health struggles	N = 11	Thematic Content Analysis, Heuristic and Intuitive Inquiry, Listening Guide Method	Interviews (Secondary Data)
Emlet et al. (2011)	Gerontology	Older adults with HIV/AIDS as it relates to strengths and resilience in dealing with this devastating disease.	N = 25	Constant Comparative Methodology following the Tenets of Adaptive Theory	Interviews
Hall (2018)	Social and Personal Relationships	Marginalized family members (black sheep)	N = 30	Grounded Theory	Interviews
Han et al. (2019)	Neurology	Family caregivers of hospice patients with dementia	N = 39	Deductive Content Analysis	Interviews (Secondary Data)
Hulen et al. (2019)	Health Care	Native American adults living off of reservation in Flagstaff, Arizona and surrounding areas	N = 22	Grounded Theory	Interviews
Huey et al. (2013)	Interpersonal Violence	Violently victimized homeless women	N = 60	Grounded Theory	Interviews
Johnson et al. (2018)	Deaf Studies and Deaf Education	Current mental health professionals who treat deaf patient	N = 19	Grounded Theory	Interviews
Knowles (2011)	Nursing	Atomic bomb survivors from Hiroshima and Nagasaki	N = 8	Narrative Analysis, Oral History and Ethnography	Interviews
Kwong et al. (2015)	Psychology	Community-dwelling Asian and African American elders of New Orleans	N = 17	Cross-case Analysis using the Constant Comparison Method	Interviews
Levitt et al. (2016)	Gay and Lesbian Social Services	Self-identifying gay, lesbian, and bisexual adults residing in the Mid- South area of the United States	N = 16	Grounded Theory	Interviews
M. J. Li et al. (2017)	Multidisciplinary	Gay and bisexual Latino men	N = 21	Content Analysis	Interviews
J. Li et al. (2018)	Geriatrics, Psychology	Chinese Immigrants in LA	N = 24	Content Analysis	Interviews
Machida et al. (2013)	Public Health	Male quadriplegic wheelchair rugby players	N = 12	Phenomenology	Interviews
Manning (2014)	Faith-based: Religion and Health	Older adult women	N = 6	Grounded Theory	Interviews
Manning (2013)	Public Health	Women in late life	N = 6	Phenomenology	Interviews

(*Continued*)

Table 1. (Continued).

Article	Journal Field	Study Population	Sample Size	Qualitative Approach	Data Collection Methods
Mealer et al. (2012)	Medical: Intensive Care, Critical Care, Emergency Medicine	Intensive Care Unit nurses	N = 50	Qualitative Inquiry	Interviews
Monden et al. (2014)	Spinal Cord Medicine	Persons with spinal cord injuries (SCI)	N = 28	Aspects of Grounded Theory	Focus Groups
Newsom and Myers-Bowman (2017)	Trauma: Child Sexual Abuse	Female survivors of child sexual abuse	N = 6	Phenomenology	Interviews
Nicolazzo (2016)	Education: College Student Development	Transgender college students	N = 9	Ethnography	Observation, Ethnographic Interviews, Document Analysis
Pieters (2016)	Cancer Nursing	Older women (aged 70 to 94 years) who recently completed treatment for early-stage breast cancer	N = 18	Constructivist Grounded Theory	Interviews
Price et al. (2012)	Medical	Stroke survivor	N = 1	Qualitative Case Design	Interviews
Reicherzer and Spillman (2012)	Trans-medical: Social, Legal, Education	Trans women who entertained in Texas who were ethnically Mexican	N = 3	Case Study	Observations, Interviews, and Review of Artifacts
Silverman et al. (2017)	Disability	Individuals with multiple sclerosis	N = 32	Phenomenology	Focus Groups
Singh et al. (2013)	Psychology	African American women who survived child sexual abuse	N = 10	Phenomenology	Interviews
Spencer-Hwang et al. (2018)	Medical Science and Social Science in Medicine	Loma Linda Blue Zone centenarians and seniors affiliated with Seventh Day Adventist Community	N = 36	Grounded Theory	Interviews, Focus Groups, Analysis of a Published Memoir

pathways of a broad definition or context-specific definition, with many using common core elements and; (2) operationalization originated from either previous research (existing theories/frameworks or general literature) or developed during data collection and/or analysis using emic approaches. Figure 1 is a conceptual map of our thematic findings related to definition and operationalization.

Two Main Pathways to Define Resilience

Although some researchers suggest developing a universal definition of resilience is unfeasible due to the context-specificity of the concept (Johnson et al., 2018), we found the majority of articles examined began with a clear definition of resilience derived from previous research, established theories, or discipline-specific philosophies of resilience while others used frameworks outside of resilience relating the concept to a specific form of adversity (e.g. the use of minority stress theory to study microaggressions associated with the experience of minority populations; M. J. Li et al., 2017). Related to research question 1 (refer to 'A. Origin Definition' in Figure 1), we observed two main approaches that led to establishing the definition used in the article: (1) using a broad definition of

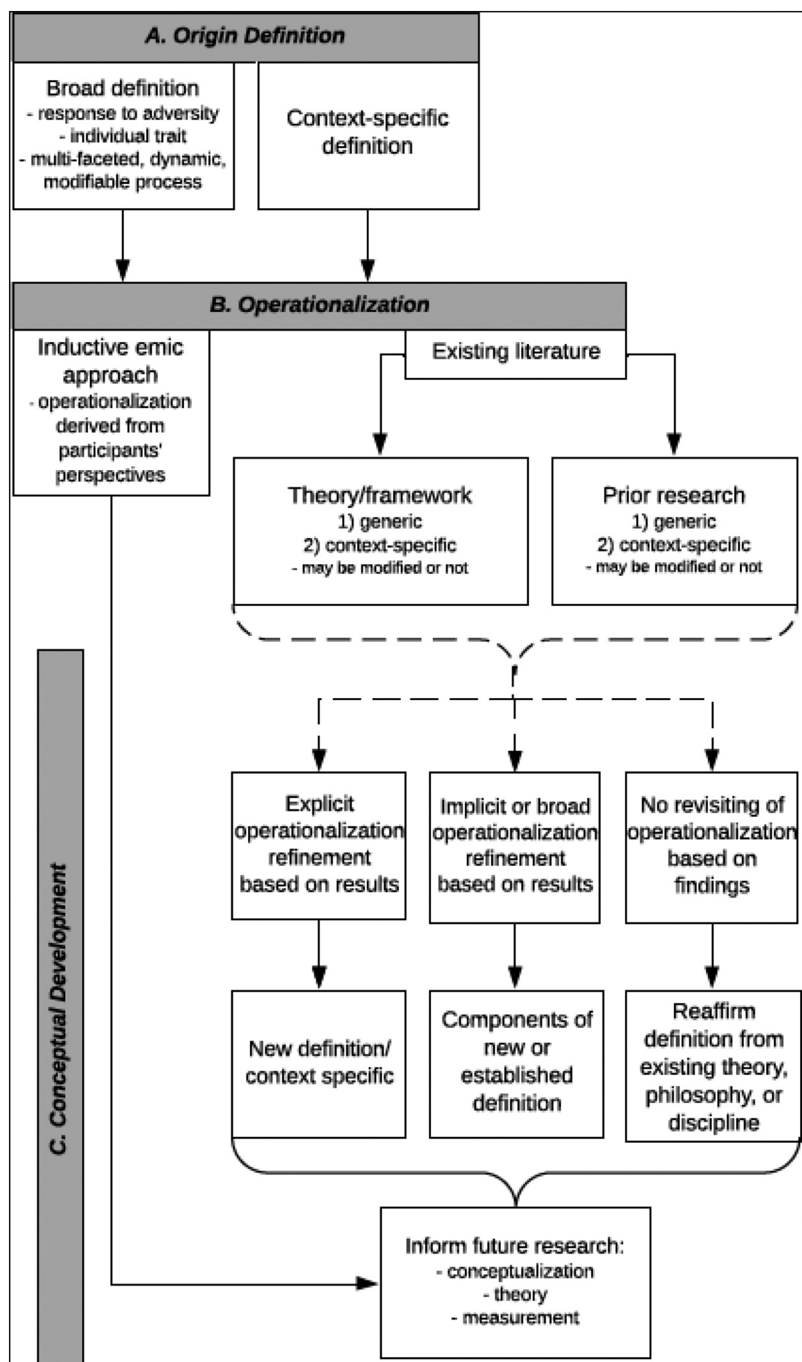

Figure 1. Resilience Conceptualization Process.

resilience (e.g. 'bouncing back from adversity', Silverman et al., 2017, p. 14) that can be generalized to all groups; or (2) creating a context-specific definition intended to build discourse and inform interventions for a specific health context (e.g. HIV infection). In spite of definitional variance, we found agreement on general core components of resilience, including the capacity to overcome adversity, hardship, trauma, stressors, and change or disruption.

Within both approaches, definitions of resilience were often framed within a higher-level proposition that resilience is an ecological phenomenon (Abrams et al., 2018; Newsom & Myers-Bowman, 2017), in which resilience occurs as the product of ‘interactions between individuals and their environments’ (Ungar, 2011, p. 3). Abrams et al. (2018) explain that resilience includes ecological, biopsychosocial, and spiritual dimensions. Thus, another way to understand resilience beyond its common depiction as either an individual (typically psychological) or ecological phenomenon is to underscore other characteristics of resilience that are inherent to an individual’s mind, body, and spirituality (Elm et al., 2016), emphasizing the interconnectedness of psychological, biological, and spiritual processes to orchestrate an individual’s resilience trajectory over time (Abrams et al., 2018; Buttram, 2015; Manning, 2013, 2014; Monden et al., 2014; Price et al., 2012; Singh et al., 2013). Overall, a large segment (n = 7) of the reviewed literature portrayed spirituality as an intrinsic component of resilience. This approach to resilience highlights the importance of considering contextual (e.g. social, familial contexts), and politico-economic factors, temporal aspects of resilience having the potential to impede or enhance its emergence (Ungar, 2011).

One article deviated from the two pathways described above. The emerging braided resiliency framework may be a helpful alternative to these two approaches (Elm et al., 2016). This framework involves a theory-building model of intersectional resilience that considers prior theoretical work on resilience and follows a meta-process of merging, or braiding, together different forms of resilience as they emerge from the data.

Resilience Operationalization

In terms of operationalization of resilience, we found two approaches: (1) an emic approach of basing conceptualization on participants’ perspectives and associated descriptions (Kwong et al., 2015; De Santis & Deleon, 2013; De Santis et al., 2013; Silverman et al., 2017) or; (2) using existing literature proposing a conceptualization of resilience that is specific to the population (e.g. older women; Pieters, 2016) or exposure (e.g. surviving sexual child abuse; see ‘B. Operationalization’ in Figure 1; Newsom & Myers-Bowman, 2017). A component of these operationalizations include attributes or components of resilience that may be measured.

Inductive emic approach. This approach takes a subjective stance to conceptualization and situates participants’ narrated lived experience of resilience at the core of the research process (Kwong et al., 2015; Manning, 2013; Mealer et al., 2012; De Santis & Deleon, 2013; De Santis et al., 2013; Silverman et al., 2017). Authors gather empirical data as a way to inform resilience conceptualizations based on observed patterns (Tracy, 2019). Future research may test these tentative conceptual propositions in a way that can inform theory or ‘create an interesting story’ about a given phenomenon from the perspective of those who lived it (Tracy, 2019, p. 27). The theories or frameworks best suited to inform resilience conceptualizations in a specific context may themselves be selected a posteriori because they reflect participants’ shared lived experience (e.g. Reicherzer & Spillman, 2012).

In many articles, participants did not use the word ‘resilience’ to describe their experiences, and it was not always clear whether researchers applied the word a priori or when analyzing the findings. Silverman et al. (2017) included sufficient detail for readers to see that the word was used a priori along with lay understandings (i.e., ‘What things help you bounce back during difficult times?’). Other researchers used word/questions such as growth or strength to examine resilience processes in a specific population (Huey et al., 2013).

Existing literature approach. The second approach uses existing literature to inform conceptualizations of resilience from literature, either prior literature more broadly or specific theories or frameworks. When using prior research, authors used the following approaches: (a) generic or general literature (Spencer-Hwang et al., 2018); (b) reports on research findings from a study conducted in similar populations (Hulen et al., 2019; Johnson et al., 2018; Knowles, 2011; J. Li et al.,

2018; Pieters, 2016) and/or (c) examining the same exposure (Monden et al., 2014; Newsom & Myers-Bowman, 2017). More structured than prior literature, theories or frameworks may be generic (such as resilience theory; Abrams et al., 2018; Buttram, 2015; Emlet et al., 2011; Huey et al., 2013; Machida et al., 2013; Price et al., 2012), population-specific (e.g. indigenous theory of resilience Elm et al., 2016; Hall, 2018; Han et al., 2019; Manning, 2014; Nicolazzo, 2016; Reicherzer & Spillman, 2012; Singh et al., 2013), or exposure-specific (e.g. minority stress contexts M. J. Li et al., 2017; Levitt et al., 2016).

Authors choosing to use previous research to inform conceptualizations of resilience (prior research findings or theory alike) follow two distinct paths: they either apply the conceptualization as proposed or modify it. Modifying may include expanding its scope by adding elements to the operationalization, or reducing it by focusing on intentionally selected components (Newsom & Myers-Bowman, 2017). For example, Manning (2014) used a framework that conceptualized resilience as a process of recovery, sustainability and growth, which the authors modified to recovery, sustainability, and spirituality, while specifying that spirituality encompasses both growth as well as development. As an example of reduction, Newsom and Myers-Bowman (2017) raises the problem that current definitions of resilience for child sexual abuse survivors 'seem to cause some difficulty in the process of conceptualization of resilience because there are so many factors to consider' (Newsom & Myers-Bowman, 2017, p. 930). This leads the authors to operationalize resilience solely as 'biological and environmental, especially manifesting itself in the context of relationships and the development of interpersonal skills' (Newsom & Myers-Bowman, 2017, p. 930).

Most authors revisited conceptualizations of resilience to refine them based on their results (refer to "C. Conceptual Development" in Figure 1; for example, Abrams et al., 2018; Emlet et al., 2011; Monden et al., 2014; Nicolazzo, 2016). While some authors revisit specific attributes of resilience in relation to the initial conceptualization, others make broader connection to existing research (Johnson et al., 2018; Levitt et al., 2016). For example, Johnson et al. (2018) challenge the general proposition of resilience as 'solely a post-adversity phenomenon' (p. 318), and propose that being deaf is in itself a resilience-enhancing characteristic. Nicolazzo (2016) explicitly revisits the resilience conceptualization source through categorizing the results as arrivals (commonalities with the framework) and departures (divergences from the framework).

Varying levels of conceptual refinement yield different outcomes. Explicit operationalization refinement can inform the development of new resilience conceptualizations that are context-specific. Implicit connections to existing literature inform components of new or established conceptualizations of resilience but do not necessarily make clear connections to either prior research or the usefulness of findings for future research. Refinement strategies typically revisit components of broader and often non-context specific definitions of resilience, such as the contemporary disagreement in the literature proposing resilience as either a trait or a process. Finally, some authors do not revisit their initial definitions but contribute existing components or overall conceptualizations of resilience from prior research or theory.

Within existing quantitative literature are measurements with cut points to determine the presence or absence of a condition. The use of comparison groups within a study design can influence how resilience is operationalized and introduces questions about cut points. Mealer et al. (2012) depict post-traumatic stress disorder (PTSD) symptomology as mutually exclusive from resilience in order to create comparison groups of highly resilient intensive care unit (ICU) nurses and ICU nurses with PTSD.

Attributes of resilience. Articles developed population-specific definitions by identifying attributes inherent to the process of resilience (e.g. optimism, humor, spirituality, self-acceptance). However, in some cases, authors did not conceptualize resilience as distinct from coping and/or post-traumatic growth (PTG). For example, Levitt et al. (2016) bases its entire conceptualization of resilience through the lens of coping. Similarly, Manning (2014) uses a framework which includes growth (the ability to further develop as a response to adversity) and development,

both described as facets of spirituality. Furthermore, the authors use coping and resilience interchangeably throughout the manuscript, as seen in several other articles (Buttram, 2015; Emlet et al., 2011; Levitt et al., 2016; Mealer et al., 2012; Pieters, 2016; Reicherzer & Spillman, 2012). At contrary, Hall (2018) makes an intentional effort to differentiate resilience and coping to extend existing coping research. They propose that the focus on 'not only recovery or bouncing back but also growth' is the key distinction between resilience and coping strategies, despite their resemblance (Hall, 2018, p. 321).

Discussion

Resilience in health-related literature has not yet been comprehensively reviewed and there is a need to clarify working definitions and operationalizations of resilience. While many studies in the U.S. examine psychological resilience of individual adults within a health or healthcare context, we found only 29 articles that met our inclusion criteria that enabled us to assess the current theoretical state, methodological understanding, and application of resilience within health research. This scoping review highlights the *research process* as a source for methodological, conceptual, and practical considerations to further our understanding of resilience in a health-related context. Each article included in the review explored the nature, development, and/or process of resilience in marginalized or vulnerable groups through a variety of philosophical and methodological approaches. We identified the following themes related to our research questions: (1) definitions of resilience followed two main pathways of a broad definition or population-specific definition, with many using common core elements and; (2) operationalization was either based in previous research (of theories/frameworks or general literature) or inductive emic approaches.

The reviewed literature included health as either part of the adversity (such as individuals living with HIV) or only vaguely as part of the outcomes (resilience operated by reducing 'psychological distress'). The lack of specificity in health outcomes resulting from resilience may be tied to qualitative research centering participants' experiences; thus, authors may not be able to speak on whether resilience is *preventing* health outcomes. Within quantitative literature on resilience and mental health, several paths between resilience and mental health have been described. Resilience may promote recovery after stress (harm-reduction), preserve health through protecting against stress (protection), develop additional resources which may reduce the impact of stress and increase-positive experiences (promotion; Davydov et al., 2010). More qualitative is needed to explore the nuanced differences of these three pathways. Qualitative literature may better weave into the larger conversation about resilience by articulating the lived experiences related to health, while mixed-methods research can integrate the strengths of quantitative and qualitative work.

Most, but not all, articles provided a definition of resilience. Articles that included definitions of resilience often provided various origin definitions (i.e. a definition from previous research) and concluded with either: (1) a new definition designed to provide a basis for future research, (2) a descriptive analysis of elements (e.g. components, traits, characteristics) of resilience designed to augment previous research, or (3) a descriptive analysis that supports or exemplifies a previous definition of resilience. Methodologically, the common approach in these qualitative studies was to use a single method. The lack of standardized resilience definitions and conceptualizations hinders building on previous research to inform positive health outcomes and interventions for vulnerable groups.

As the studies examined here demonstrate, resilience as a concept exhibits a complex and heterogeneous nature, not amenable to a more precise systematic review of the evidence. The scoping review we employed allowed us to best analyze resilience under this wide range of studies. There was a variety of theoretical frameworks used to operationalize how resilience mattered for a diverse set of groups. In most articles, the findings underscored the different methods researchers

used to operationalize resilience as the study group members were born into, transitioned into, or emerged from health-traumatic experiences.

Johnson et al. (2018) posit that a universal definition of resilience may be impossible, and Grant and Kinman (2013) add that agreement on conceptualization may not be desirable due to the diversity inherent in resilience. Although the resilience response may be 'nearly universal', people differ in their capabilities, and communities differ in resources (Zautra et al., 2010, p. 5). One response to this dilemma may be the emerging braided resiliency framework which incorporates prior theoretical work on resilience and then refines it based on population-specifics (e.g. indigenous people in Elm et al., 2016).

When populations have not been specifically asked what 'resilience' means to them, the validity of research that uses this word in asking participants may be reduced. For example, the effects of resilience may not be straightforward, such as in the case of happiness. In one study, 'happiness' for older Polish people was tied to things that both increased (e.g. relationships with other people) and decreased (e.g. material goods) satisfaction with life (Bojanowska & Zalewska, 2016). Another approach we found in this study includes researchers labeling experiences as resilience after collecting data. The retrospective application of resilience to participants' descriptions without their use of the word may jeopardize community trust in researchers or institutions. Discrepancies between researcher and lay understandings of terms may affect self-report about a specific phenomenon (for a discussion of the blur between disgust and anger, see Nabi, 2002).

Authors using an emic approach to operationalization may not refine their a priori proposition for how resilience might unfold in a specific context (Kwong et al., 2015). However, comparing empirical findings to existing knowledge may validate or refute specific aspects of resilience trajectories in particular contexts. Incorporating findings within existing conceptualizations can inform conceptual development in relation to resilience. Revisited conceptualizations may serve as the conceptual foundation of future research conducted in a population, or in relation to the same traumatic exposure. In addition, such work may advance theoretical propositions in relation to how resilience relates to other concepts (e.g. vulnerability) of relevance in a particular context (e.g. following HIV infection; De Santis & Deleon, 2013). Furthermore, psychometric testing, and more specifically construct validity testing, can further validate the relationship between resilience and closely related concepts in its nomological network, including health, in the context under investigation (De Santis & Deleon, 2013).

Implications

Zautra et al. (2010) highlight the need for theoretical models informing the assessment of resilience. In qualitative research, theory may be based on previous qualitative research findings rather than a formal, named theory. In enhancing understandings of resilience, researchers often begin with broader conceptualizations of resilience; we found fewer articles that used previous population- or context-specific operationalizations of resilience to inform their approach, yet their conclusions are often specific conceptualizations of resilience. Parsing of populations without looking for commonalities across populations may stymy future work, as commonalities may be key for larger theory-building.

Resilience entails a change in cognition, affect, and behavior as well as a change in the nature of the relationships between these processes (Zautra et al., 2010). Participants' awareness of their resilience may complicate qualitative resilience research. When qualitative researchers ask individuals about their lived experiences of resilience, there may be limitations on individuals' perceptions of resilience processes (e.g. individuals may be uncertain if they developed cognitive flexibility as a response to a particular adverse event or if this was developed earlier). Further, many people may recover from adversity without awareness of their resilience (Zautra et al., 2010), in part because systems involved in resilience are designed to return to baseline. Qualitative work that relies on individuals' understandings of their experiences may be unable to capture resilience processes as

operationalized for the general population. For future research, it may be useful for research to also investigate self-awareness levels with resilience.

Limitations of the Study

We chose to focus on qualitative literature that focused on the concept of resilience in health research, in order to examine how resilience was related to health; we did not include literature that may have addressed resilience more broadly, outside of this context. Our review incorporated a quality assessment to improve the validity of our findings. We limited our study to resilience in the United States and acknowledge that resilience research from other countries may diverge from our findings. We focused on individual resilience, though we acknowledge the multidimensional nature of resilience. The individual resilience focus in much of the current literature puts the primary emphasis on agency, which may yield models that have limited potential to inform the various ways in which individuals navigate adversity through time (Ungar, 2011). These models, in return, challenge the development of evidence-based interventions targeting resilience at multiple levels of the socioecological framework, an avenue deemed promising to guide public health action (Zimmerman, 2017). Given the systematic and broad nature of our review, we have provided a detailed overview of the qualitative research process that should help researchers and practitioners advance health and resilience studies.

Conclusion

The relationship between resilience and health is complex. We found little qualitative research on the effects of resilience on general health or on specific health outcomes. While a unified understanding of resilience exists in the literature, an increased awareness and adaptation of operationalizations of resilience to target populations and research context is needed. This study was designed to help researchers, clinicians, and support services with an interest in improving our understanding of how resilience trajectories unfold in individuals. It may help inform future research to better support-positive health outcomes post trauma and adversity.

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