

The Association Between Intrapersonal Resilience Resources and Quality of Life Among Older Persons Living With HIV: A Systematic Review

Shakaye R. Haase, MSc* • Rebecca Billings, MLIS • David E. Vance, PhD • Pariya L. Fazeli, PhD

Abstract

Despite positive improvements in health care, older persons living with HIV (PWH) still face psychosocial challenges and medical issues that affect their overall quality of life (QoL). Intrapersonal resilience resources may serve as a protective factor allowing PWH to better cope with adversity, thereby improving their well-being. In our systematic review, we examined intrapersonal resilience resources and their association with QoL outcomes among middle-aged and older PWH (≥ 40 years). Four databases (CINAHL, PubMed, PsycINFO, and Embase) were searched, and 1,400 articles were yielded. Following screening and full-text review, 19 studies met full criteria and were included. Based on our findings from these studies, trait resilience, spirituality, and self-efficacy were the most common resilience resources investigated. Resilience resources were positively associated with QoL outcomes and mediated the association between various psychosocial factors (e.g., stigma) and QoL. Future studies should explore resilience resources and QoL over time among diverse populations of PWH.

Key words: HIV, older adults, quality of life, resilience resources

The health and longevity for people living with HIV (PWH) has significantly improved with the development of antiretroviral therapies (ART; Vance et al., 2019). HIV has shifted to a chronic lifelong illness with the focus now on helping PWH to have a better physical, mental, and social health and well-being (Xu et al., 2018). Studying quality of life (QoL) is important for understanding how the challenges of living with HIV affect well-being, with a focus on protective factors that may inform intervention targets (Fang et al., 2015).

Despite improvement in health care, PWH face challenges that affect their QoL, such as stigma and discrimination (Turan et al., 2017), lack of social support (Wani, 2020), and homelessness (Fang et al., 2015). As PWH age, they face additional challenges such as cognitive and neurological problems, social isolation, economic instability, challenges with everyday functioning, and other age-related comorbid diseases (Vance et al., 2019). Not all PWH who face these challenges will experience a reduction in their QoL. Emerging studies have identified a subset of PWH who experience successful aging (Fazeli, Woods,

et al., 2020). Individual or intrapersonal resilience resources may allow some PWH to deal with or recover from adversity, thus increasing the likelihood of having a higher QoL and well-being (Fang et al., 2015). Several factors have been identified and conceptualized as intrapersonal resilience resources, including hardiness, grit, self-esteem, self-efficacy, optimism/positive thinking, coping, spirituality/religiosity, and perseverance (Ledesma, 2014). Resilience resources have shown associations with several health outcomes among PWH, including neurocognitive and everyday function (Fazeli, Woods, et al., 2020), biomarkers such as allostatic load (Fazeli, Waldrop-Valverde, et al., 2020), and HIV health behaviors/outcomes (Dulin et al., 2018). Yet less is known about the association between a broad range of intrapersonal resilience resources and QoL among aging PWH.

The purpose of this article was to systematically review studies examining intrapersonal resilience resources and their association with QoL outcomes among middle-aged and older PWH, and it is the first study to specifically examine these associations in this population. This review investigates the naturalistic intrapersonal resilience resources PWH use to impact their QoL. Studying *intrapersonal* resilience resources is particularly important because they may be more modifiable in interventions, compared with *interpersonal* resources such as social support. These resources are also within the individual and thus may be available, even in the absence of other interpersonal resources. Understanding the influence of intrapersonal resilience

Shakaye Haase, MSc, is a Doctoral Student, Department of Psychology, University of Alabama at Birmingham, Birmingham, Alabama, USA. Rebecca Billings, MLIS, is an Assistant Professor, UAB Libraries, University of Alabama at Birmingham, Birmingham, Alabama, USA. David E. Vance, PhD, is a Professor, School of Nursing, University of Alabama at Birmingham, Birmingham, Alabama, USA. Pariya L. Fazeli, PhD, is an Associate Professor, School of Nursing, University of Alabama at Birmingham, Birmingham, Alabama, USA.

*Corresponding author: Shakaye Haase, e-mail: shkhaase@uab.edu

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resources on QoL outcomes is important among aging PWH because a large proportion of PWH are transitioning to older adulthood, and such knowledge may inform clinical interventions, overall HIV health care, and treatment outcomes for older PWH.

Methods

Search Strategy

The methodology for this study was reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement: an updated guideline for reporting systematic reviews (Page et al., 2021). The review was preregistered with The International Prospective Register of Systematic Reviews (PROSPERO) [registration number: CRD42021279028] before the review being initiated. The systematic search procedure was performed by a qualified librarian, who searched CINAHL Plus (through EBSCO), PubMed (through National Library of Medicine), PsycINFO (through ProQuest), and EMBASE (through Elsevier) between March 15 and 16, 2023. Databases were searched using terms and concepts related to intrapersonal resilience resources (“resilience, personality, hardiness, grit, self-efficacy, optimism/positivity thinking, coping, spirituality/religiosity, perseverance, and psychological factors”) and QoL (“quality of life—social/mental/physical, well-being—social/personal/mental/physical, mental/physical health, and life satisfaction, and activities of daily living”). The combination of search terms that were used are displayed in Table 1. The search was restricted to articles published in 2000 and later because this was the time when more effective ART (i.e., protease inhibitors) began to emerge and be used with regularity, changing the treatment landscape and prognosis of HIV (Vance & Robinson, 2004).

The following inclusion and exclusion criteria were used. First, all articles had to be peer-reviewed and present original empirical data; review articles, editorials, and other types of articles were not included. Second, all articles had to have a primary focus on intrapersonal or individual resilience resources, as opposed to interpersonal factors such as social support and stigma. Third, these articles must have focused on QoL/well-being as an outcome. Only global measures of mental or physical health-related QoL (HRQoL) were included, and specific physical illnesses (e.g., chronic pain) or mental disorders (e.g., depression/anxiety) were excluded. Fourth, only observational, cross-sectional, and longitudinal studies and quantitative data from mixed method studies were included. Intervention studies were not included. Intervention studies were excluded to first

establish the naturalistic intrapersonal resilience resources that impact QoL in PLWH; this remains a necessary first and foundational step before examining resilience interventions. Fifth, the target population of study must have included middle-aged and older PWH (40+). If a study had a mixed sample of younger and older PWH, the results of older PWH (40+) must have been analyzed separately to be included. Finally, all articles must have been published/available in English.

Screening and Selection

The search results of all the studies meeting the inclusion criteria were downloaded into Covidence software, and duplicates were removed. Two team members conducted an independent initial screening of the title and abstracts of all studies, and all conflicts were discussed and arbitrated by a third member of the research team. The interrater reliability (IRR; Cohen’s kappa) of this initial title and abstract screening was 0.41, which is considered moderate IRR. Following this, full text of the studies was also independently screened to ensure that the eligibility criteria were met, which resulted in 100% agreement (Cohen’s kappa IRR = 1.00), and thus, there was no need for a third reviewer. All the steps from the search results, screenings, final articles included, and reasons for exclusions are presented in a PRISMA flow diagram (Page et al., 2021; Figure 1). Table 2 summarizes the final studies. In addition to the formal database search, the reference list of articles that met the criteria were manually searched for other studies that may have been overlooked. The research team also searched Google Scholar and considered the authors’ professional knowledge of existing studies. Five studies were reviewed and included based on this additional search.

Quality Assessment

The methodological and overall quality assessment of the articles were conducted by two members of the research team using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross-Sectional Studies (Moola et al., 2020). The JBI appraisal tool assesses various areas, such as inclusion criteria for the sample, description of study subjects and settings, accounting for confounding factors, measurement of the outcome variables, and use of appropriate statistical analysis. After independent assessment, the evaluators met to discuss any evaluation that differed and came to a final consensus. The final quality assessment is presented in Table 3.

Table 1. Terms Used to Search for Targeted Articles in CINAHL, PubMed, Psych Info and Embase

Database	Search Step	Searches	Results
PubMed Host: NationalLibrary of Medicine Data Parameters: 1946 to Present Date Searched: March 15, 2023 Date Filters applied: 01/01/2000 to 03/15/2023 Searcher: Becca Billings	1	""HIV Infections/psychology""[Mesh] OR ""HIV Infections/therapy""[Mesh]	160,573
	2	HIV[tiab] OR ""human immunodeficiency virus""[tiab] OR PLHIV[tiab] OR ""People living with HIV""[tiab] OR HIV/AIDS[tiab] OR ""acquired immunodeficiency syndrome""[tiab] OR AIDS[tiab]	454,771
	3	#1 OR #2	473,339
	4	""Resilience, Psychological""[Mesh] OR ""Adaptation, Psychological""[Mesh] OR ""Self Care/psychology""[Mesh]	150,909
	5	adapt*[ti] OR adjust*[ti] OR self-manage*[tiab] OR resilien*[tiab] OR grit[tiab] OR hardiness[tiab] OR cope[tiab] OR coping[tiab] OR positivity[tiab] OR personality[tiab] OR self-efficacy[tiab] OR optimistic [tiab] OR optimism[tiab] OR ""positive thinking""[tiab] OR ""positive living""[tiab] OR ""positive psychological factors""[tiab] OR spiritual* [tiab] OR religio*[tiab] OR ""psychological factors""[tiab]	616,491
	6	#4 OR #5	706,071
	7	""Quality of Life/psychology""[Majr] OR ""health-related quality of life""[tiab] OR HRQoL[tiab] OR life-quality[tiab] OR ""Activities of Daily Living/psychology""[Mesh] OR ""life satisfaction""[tiab] OR ""Personal satisfaction""[Mesh] OR ""personal satisfaction""[tiab]	128,789
	8	wellbeing[tiab] OR health[tiab]	2,562,598
	9	social[tiab] OR mental[tiab] OR physical[tiab] OR emotional[tiab] OR psychological[tiab] OR psychosocial[tiab]	2,068,406
	10	#8 AND #9	695,353
	11	#7 OR #10	773,450
	12	#3 AND #6 AND #11	4,416

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Table 1. (continued)

Database	Search Step	Searches	Results
	13	""Adult""[Mesh] OR ""Middle Aged""[Mesh] OR ""Aged""[Mesh] OR elder*[tiab] OR adult*[tiab] OR middle-age*[tiab] OR ""older adults""[tiab] OR aged [tiab] OR older[tiab]	9,056,613
	14	English[Filter]	30,609,994
	15	""Comparative Study""[Publication Type] OR ""Cross-Sectional Studies""[Mesh] OR ""Longitudinal Studies""[Mesh] OR ""longitudinal""[ti] OR ""prevalence""[ti] OR ""cross-sectional""[ti] OR ""mixed methods""[ti] OR ""mixed-methods""[ti] OR quantitative[ti] OR (qualitative[ti] AND quantitative[ti])	2,772,659
	16	#12 AND #13 AND #14 AND #15	733
	17	""Young Adult""[Mesh] OR ""Child""[Mesh] OR ""Infant""[Mesh] OR ""Adolescent""[Mesh] OR adolescen*[ti] OR child*[ti] OR infant*[ti] OR ""young adult""[ti] OR ""young adults""[ti]	4,559,036
	18	""Review""[Publication Type] OR ""Clinical Trial""[Publication Type] OR ""Clinical Study""[Publication Type] OR ""Clinical Studies as Topic""[Mesh] OR ""Qualitative Research""[Mesh] OR qualitative[ti] OR review*[ti] OR intervention*[ti] OR ""Randomized""[ti] OR randomization[ti]	4,919,727
	19	#16 NOT (#17 OR #18)	317
	20	#19 AND Filters: from 2000 to 2023	269
Embase Host: Elsevier Data Parameters:1947 to PresentDate Searched:3/15/2023 Date Filters applied: 01/01/2000 to 03/15/2023 Searcher: Becca Billings	1	""human immunodeficiency virus infection""/exp/mj OR ""human immunodeficiency virus""/exp/mj OR ""hiv"":ti,ab OR ""plhiv"":ti,ab OR ""people living with hiv"":ti,ab OR ""human immunodeficiency virus"": ti,ab OR ""acquired immunodeficiency syndrome"": ti,ab OR ""AIDS"":ti,ab OR ""HIV/AIDS"":ti,ab	605,247
	2	""psychological resilience""/exp/mj OR ""resilience""/exp OR ""psychological adjustment""/mj OR ""self care""/mj OR adapt*:ti OR adjust*:ti OR	771,652

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Table 1. (continued)

Database	Search Step	Searches	Results
		"self manage*":ti,ab OR resilien*:ti,ab OR grit:ti,ab OR hardiness:ti,ab OR cope:ti,ab OR coping:ti,ab OR positivity:ti,ab OR personality:ti,ab OR "self efficacy":ti,ab OR optimistic:ti,ab OR optimism:ti,ab OR "positive thinking":ti,ab OR "positive living":ti,ab OR "positive psychological factors":ti,ab OR spiritual*:ti,ab OR religio*:ti,ab OR "psychological factors":ti,ab	
	3	"quality of life"/exp/mj OR "health-related quality of life":ti,ab OR hrqol:ti,ab OR "life quality":ti,ab OR "daily life activity"/mj OR "life satisfaction":ti,ab OR "satisfaction"/exp/mj OR "personal satisfaction":ti,ab OR wellbeing:ti OR health:ti	1,098,025
	4	"social":ti,ab OR "mental":ti,ab OR "physical":ti,ab OR "emotional":ti,ab OR "psychological":ti,ab OR "psychosocial":ti,ab	2,596,821
	5	#3 AND #4	343,262
	6	#1 AND #2 AND #5	1,159
	7	"adult"/de OR "middle aged"/de OR "aged"/de OR elder*:ti,ab OR adult*:ti,ab OR "middle age*":ti,ab OR "older adults":ti,ab OR aged:ti,ab OR older:ti,ab	11,967,279
	8	#6 AND #7	808
	9	"young adult"/exp OR "child"/exp OR "infant"/exp OR "adolescent"/de OR adolescen* OR child* OR infant* OR "young adult" OR "young adults"	5,898,921
	10	"clinical study"/exp OR "clinical trial"/exp OR "qualitative research"/exp OR "review"/exp OR "intervention study"/exp OR review*:ti OR "intervention*":ti OR "clinical study":ti OR "clinical research":ti OR "clinical trial":ti OR randomiz*:ti	15,049,196
	11	#8 NOT (#9 OR #10)	158
	12	#11 AND [2000-2023]/py AND [humans]/lim AND [English]/lim	135

(continued on next page)

Table 1. (continued)

Database	Search Step	Searches	Results
PsycINFO Host: ProQuest Data Parameters: 1806 to Present Date Searched: 3/15/2023 Date Filters applied: 01/01/2000 to 03/15/2023 Searcher: Becca Billings	1	(MESH("HIV") OR TIABSU(HIV OR PLHIV OR "People living with HIV" OR HIV/AIDS OR "human immunodeficiency virus" OR "acquired immunodeficiency syndrome"))	60,591
	2	(MJMAINSUBJECT.EXACT.EXPLODE("Resilience (Psychological)") OR MJMAINSUBJECT.EXACT.EXPLODE("Adaptation") OR MJMAINSUBJECT.EXACT("Adaptive Behavior") OR MJMAINSUBJECT.EXACT.EXPLODE("Self-Care Skills") OR MJMAINSUBJECT.EXACT.EXPLODE("Self-Care") OR MJMAINSUBJECT.EXACT("Altruism") OR MJMAINSUBJECT.EXACT("Perceptiveness (Personality)") OR MJMAINSUBJECT.EXACT("Optimism") OR MJMAINSUBJECT.EXACT("Positivism") OR MJMAINSUBJECT.EXACT("Openness to Experience") OR MJMAINSUBJECT.EXACT("Adaptability (Personality)") OR TIABSU(adapt* OR adjust* OR self-manage* OR resilien* OR grit OR hardiness OR cope OR coping OR positivity OR personality OR self-efficacy OR optimistic OR optimism OR "positive thinking" OR "positive living" OR "positive psychological factors" OR spiritual* OR religio* OR "psychological factors" OR self-care OR "psychological resilience" OR "psychological resiliency"))	1,141,461
	3	(MJMAINSUBJECT.EXACT.EXPLODE("Quality of Life") OR MJMAINSUBJECT.EXACT.EXPLODE("Activities of Daily Living") OR TIABSU("health-related quality of life" OR HRQoL OR life-quality OR "life satisfaction" OR "personal satisfaction") OR (AB, TI(wellbeing OR health))) AND AB, TI(social OR mental OR physical OR emotional OR psychological OR psychosocial)	415,225
	4	(MJMAINSUBJECT.EXACT.EXPLODE("Older Adulthood") OR MJMAINSUBJECT.EXACT.EXPLODE("Middle Adulthood") OR MJMAINSUBJECT.EXACT("Middle Adulthood") OR MJMAINSUBJECT.EXACT("Older Adulthood") OR TIABSU("Adult" OR "Middle Aged" OR "Aged" OR elder* OR adult* OR middle-age* OR "older adults" OR aged OR older))	2,491,823
	5	(MAINSUBJECT.EXACT("Mixed Methods Research") OR MAINSUBJECT.EXACT("Quantitative Methods") OR MAINSUBJECT.EXACT("Quasi Experimental Methods") OR "comparative study" OR longitudinal OR "cross-sectional" OR "prevalence" OR "mixed methods" OR quantitative OR observational)	2,119,630
	6	#1 AND #2 AND #3 AND #4 AND #5	2,106
	7	(MAINSUBJECT.EXACT("Neonatal Period") OR MAINSUBJECT.EXACT("Emerging Adulthood") OR MAINSUBJECT.EXACT("Early Adolescence") OR TIABSU(adolescen* OR child* OR infant* OR young-adult*))	1,779,910
	8	(MJMAINSUBJECT.EXACT("Literature Review") OR MAINSUBJECT.EXACT("Qualitative Methods") OR MAINSUBJECT.EXACT("Qualitative Measures") OR TI(qualitative OR review* OR intervention* OR randomiz* OR "clinical studies" OR "clinical study" OR "clinical trial" OR "clinical trials" OR "clinical research"))	338,594

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Table 1. (continued)

Database	Search Step	Searches	Results
	9	#6 NOT (#7 OR #8)	719
	10	#9 AND fillers applied: English; humans; peer reviewed; & date: 2000-02-02 to 2023-03-15	336
CINAHL Plus	1	(MH "HIV Infections+/PF/TH")	12,044
Host: EBSCO	2	(TI HIV OR AB HIV) OR (TI "human immunodeficiency virus" OR AB "human immunodeficiency virus") OR (TI PLHIV OR AB PLHIV) OR (TI "People living with HIV" OR AB "People living with HIV") OR (MH HIV) OR (TI "acquired immunodeficiency syndrome" OR AB "acquired immunodeficiency syndrome") OR (TI AIDS OR AB AIDS)	132,453
Data Parameters: 1937 to Present	3	#1 OR #2	133,672
Date Searched: 03/16/2023	4	(MH "Adaptation, Psychological+") OR (MH "Hardiness") OR (MH "Self Care+/PF")	56,892
Date Filters applied: 01/01/2000 to 03/16/2023	5	(TI adapt*) OR (TI adjust*) OR (TI self-manage* OR AB self-manage*) OR (TI resilien* OR AB resilien*) OR (TI grit OR AB grit) OR (TI hardiness OR AB hardiness) OR (TI cope OR AB cope) OR (TI coping OR AB coping) OR (TI positivity OR AB positivity) OR (TI personality OR AB personality) OR (TI self-efficacy OR AB self-efficacy) OR (TI optimistic OR AB optimistic) OR (TI optimism OR AB optimism) OR (TI "positive thinking" OR AB "positive thinking") OR (TI "positive living" OR AB "positive living") OR (TI "positive psychological factors" OR AB "positive psychological factors") OR (TI spiritual* OR AB spiritual*) OR (TI religio* OR AB religio*) OR (TI "psychological factors" OR AB "psychological factors") OR (TI "self care" OR AB "self care")	252,463
Searcher: Becca Billings	6	#4 OR #5	279,724
	7	(MH "Quality of Life+" OR (MH "Quality-Adjusted Life Years/PF") OR (TI "health-related quality of life" OR AB "health-related quality of life") OR (TI HRQoL OR AB HRQoL) OR (TI life-quality OR AB life-quality) OR (MH "Activities of Daily Living+/PF") OR (TI "life satisfaction" OR AB "life satisfaction") OR (MH "Personal Satisfaction+") OR (TI "personal satisfaction" OR AB "personal satisfaction")	196,520
	8	(MH "Psychological Well-Being") OR (TI wellbeing OR AB wellbeing) OR (TI health OR AB health)	1,227,716
	9	(TI social OR AB social) OR (TI mental OR AB mental) OR (TI physical OR AB physical) OR (TI emotional OR AB emotional) OR (TI psychological OR AB psychological) OR (TI psychosocial OR AB psychosocial)	854,443
	10	#8 AND #9	380,797
	11	#7 OR #10	404,369

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Table 1. (continued)			
Database	Search Step	Searches	Results
	12	#3 AND #6 AND #11	2,204
	13	(MH "Adult+") OR (MH "Middle Age") OR (MH "Aged+") OR (TI elder* OR AB elder*) OR (TI adult* OR AB adult*) OR (TI middle-age* OR AB middle-age*) OR (TI "older adults" OR AB "older adults") OR (TI aged OR AB aged) OR (TI older OR AB older)	2,364,032
	14	#12 AND #13	1,330
	15	(MH "Literature Review+") OR (MH "Clinical Trials+") OR (MH "Qualitative Studies+") OR (TI qualitative) OR (TI review*) OR (TI intervention*) OR (TI randomized) OR (TI randomization)	907
	16	#14 NOT #15	660
	17	#16 AND Filters: from 2000 to 2023; English; All Adult	

Data Extraction

A data extraction template was created by the research team using Microsoft Word. The data were extracted by one member of the research team and was independently reviewed and verified by two other team members. The following data were extracted from each study: authors, year of publication, study design, participant characteristics (age, sex, sexual orientation), country the study was conducted in, resilience resources investigated, QoL examined, data analysis method, findings, strengths, and limitations.

Results

The initial search resulted in 1,400 records, from which 271 duplicates were removed, and the remaining abstracts were initially screened for inclusion. Following this first screening, the remaining studies were moved to full-text review. There were studies that appeared to meet inclusion criteria, but after full-text review, they were excluded. McGowan et al. (2018) examined resilience and physical and mental well-being in adults with and without HIV; however, the analysis of the data included participants who were younger than 40 years, and this study was excluded. Nineteen studies met the inclusion criteria (Table 2). Following the review from two members of the research team, the quality assessment indicated that all 19 articles were of adequate quality, meeting the overall JBI criteria (Table 3).

Study Characteristics

All 19 articles were cross-sectional studies, with sample size ranging from 38 to 914. Eight of the studies had a sample size greater than 200, seven had a sample size between 151 and 200, and four had a sample size less than 100. Twelve of the studies were published in the United States, three in China, one study each in Canada, Spain, Germany, and Iran. Seven of the studies focused on gay and bisexual men, three focused on both heterosexual and gay/bisexuals, whereas the remaining nine did not report data on sexual orientation. Only one of the studies had a sample of women only, eight had men only, and 10 had a mixture of both.

Overall, 13 of the 19 studies reported a mixed sample African American/Black and Caucasian/White. Seven studies had a predominantly African American/Black sample (Brown et al., 2023; Fang et al., 2015; Hampton et al., 2013; Hopkins et al., 2022; Nguyen et al., 2018; Porter et al., 2017, 2019), whereas six had Caucasian/White (Emlet et al., 2013, 2017, 2020; King & Orel, 2012; Kteily-Hawa et al., 2019; Slater et al., 2013). Only six studies (Brown et al., 2023; Emlet et al., 2017; Hampton

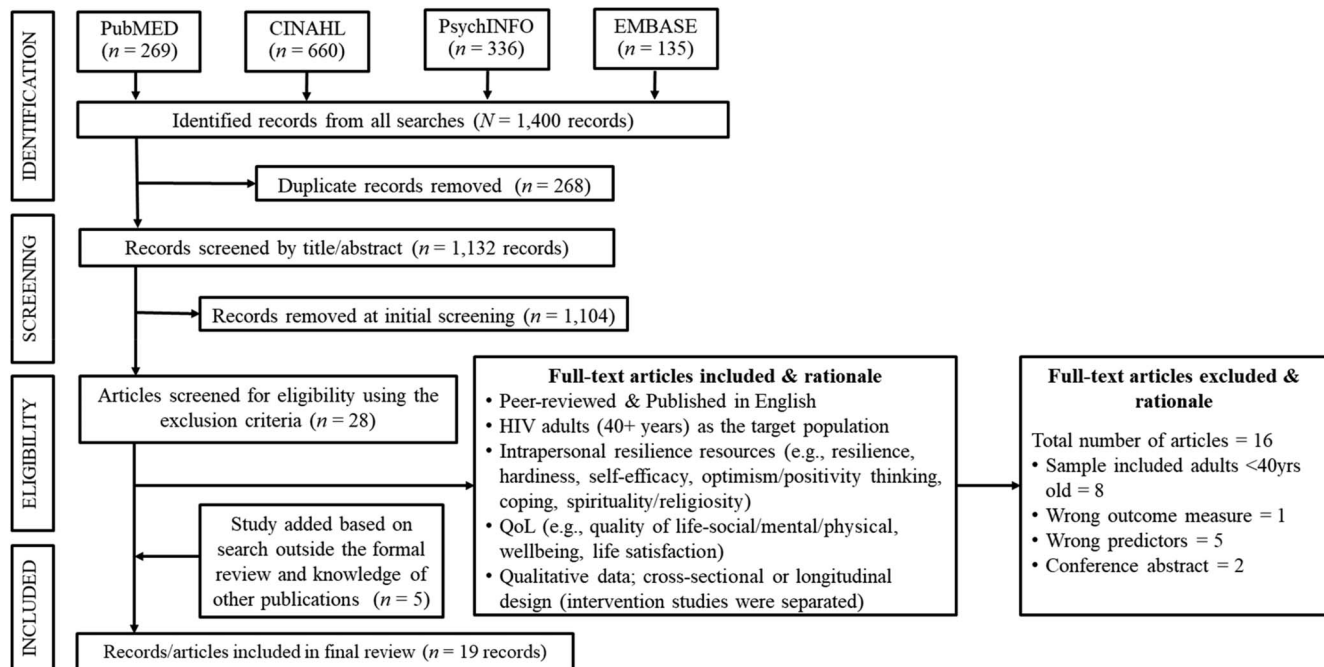


Figure 1. PRISMA diagram demonstrating screening method for literature search (Figure developed in accordance with 2020 PRISMA guidelines, Page et al., 2021).

et al., 2013; Nguyen et al., 2018; Porter et al., 2017, 2019) reported having Hispanic/Latino participants among their sample (range 4–34%). Five studies did not report data on race/ethnicity (Drewes et al., 2021; Fumaz et al., 2015; Huang et al., 2018; Liu et al., 2014; SoleimanvandiAzar et al., 2021) possibly due to the sample largely being homogenous. One study acknowledged ethnic differences within the sample, but the exact differences were unclear (Xu et al., 2018).

Across the 19 studies, all used traditional questionnaires administered at one time point (no studies used ambulatory assessments in daily life). Eleven studies investigated general resilience (measured as a dispositional/personality trait), four focused on spirituality, three focused on self-efficacy, and three focused on coping; personal mastery, health locus of control, adversarial growth (AG), and purpose in life were each the focus in single separate articles. Eight studies examined overall QoL, 12 investigated physical QoL, 12 investigated psychological QoL, two investigated environmental QoL, and one investigated social, spiritual and autonomy/independence QoL. Some studies examined multiple resilience resources and QoL outcomes.

Summary of Studies

The 19 articles are organized and summarized first based on the most frequently studied resilience resource and

within arranged by year of publication. These are organized by General Trait Resilience, Spirituality, Self-efficacy, Coping, Purpose in Life, and AG.

General trait resilience. King and Orel (2012) investigated the association of general trait resilience, health locus of control, and psychosocial stress with physical and mental health HRQoL of 38 older gay and bisexual men with HIV (mean age 53.5 years, range: 45–85 years). Lower levels of resilience were associated with higher levels of mental distress (Kendall's τ - $b = -.29, p = .016$). There was also a positive association between internalized health locus of control and general health status (Kendall's τ - $b = .258, p = .049$).

Fang et al. (2015) investigated the mediating effects of resilience (measured with latent and observed variables in a structural equation model [SEM]) on the relationship between life stress and HRQoL, specifically physical, emotional, and functional well-being among 299 older gay and bisexual men living with HIV (mean age, 55 years). Resilience was positively associated with physical ($\beta = .33, p < .001$), emotional ($\beta = .35, p < .001$), and functional well-being ($\beta = .79, p < .001$) and mediated the relationship between life stress and all three areas of well-being.

Fumaz et al. (2015) examined trait resilience and QoL among a sample of 151 older adult long-term survivors of HIV (mean age 50 years, range: 47–54 years, mean years diagnosed with HIV 21.2 years, range: 17.7–24.9

Table 2. Summary of Resilience Resource Studies

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
1. Brown et al. (2023)	<i>N</i> = 156 HIV+ older adults 50+ years ($M_{\text{age}} = 58.4$; $SD = 7.8$) Black (72%), White (24%), missing data (4%). Non-Hispanic (76%), Hispanic (4%), missing data (20%) <i>Eligibility criteria:</i> • HIV+ adults 50 years and older <i>Country:</i> South Carolina, USA <i>Data collection date:</i> Not reported	• Resilience: Connor–Davidson Resilience Scale-10 (CDRISC-10), a 10-item scale on a 5-point Likert scale ranging from: 0—“not true at all” to 4—“true nearly all of the time” • Example: “I am able to adapt to change” and “Coping with stress can strengthen me”	• Cross-sectional study <i>Primary outcome</i> • Brief version of the World Health Organization Quality of Life-HIV Instrument (WHO-QOL-HIV-BREF), a 31-item scale on a 5-point Likert scale ranging from 1—“very dissatisfied” to 5—“very satisfied” The scale taps into 6 specific QoL domains	Using multiple linear regression, resilience was significantly associated with global and five QoL domains: physical, psychological, personal autonomy (independence), social, and environment QoL	<i>Strengths</i> • Examined multiple domains of QoL • Controlled for covariates <i>Limitations</i> • Small sample size
2. Drewes et al. (2021)	<i>N</i> = 839 HIV+ older adults 50+ years ($M_{\text{age}} = 56.9$; $SD = 6.3$) No data on race/ethnicity ^a <i>Eligibility criteria</i> • HIV+ adults 50 years and older • Living in Germany <i>Country:</i> Berlin, Germany <i>Data collection date:</i> 2013–2014	• Adversarial growth (AG): Abbreviated Silver Lining Questionnaire (SLQ), 8-item scale on a 5-point Likert scale ranging from: 0—“not true at all” to 4—“true nearly all of the time” • Example: “My illness made me more aware of my strengths”	• Cross-sectional study <i>Primary outcome</i> General Health Status: 1 item rating of health—“In general, how would you rate your health?” Responses were rated on a 5-point Likert scale ranging from 1—“excellent” to 5—“poor”	• Using multivariable regression analysis, AG was negatively associated with poor self-rated health • AG mediated the relationship between internalized stigma (but not experienced stigma) self-rated health	<i>Strengths</i> • Large diverse sample characteristics • The study controlled for covariates <i>Limitations</i> • The study used an 8-item measure of SLQ, which may not fully capture all aspects of adversarial growth • One item measure to examine self-rated health
3. Emler et al. (2013)	<i>N</i> = 226 HIV+ adults 50+ years, gay, and bisexual men ($M_{\text{age}} = 62.97$; $SD = 7.32$) Non-Hispanic White (77%) <i>Eligibility criteria</i> • HIV+ gay and bisexual men 50 years and older <i>Country:</i> USA <i>Data collection date:</i> June to November 2010	• Self-efficacy: 1 item, 5-point Likert scale ranging from 0—“very often” to 4—“never”: “In the last month, how often have you felt that you were unable to control the important things in your life?”	• Cross-sectional study <i>Primary outcome</i> Physical and mental HRQoL	• Self-efficacy associated with physical and mental HRQoL, while accounting for covariates and other risk and protective factors	<i>Strengths</i> • Investigated both physical and mental HRQoL • Sample consisted of sexual minority population (older gay and bisexual men) with limited research on this population <i>Limitations</i> • One item measure of self-efficacy with no reported validity data • Not racially and ethnically diverse sample (77% non-Hispanic White)

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
4. Emlet et al. (2017)	<p>$N = 335$ HIV+ adults 50+ years, gay, and bisexual men ($M_{\text{age}} = 58.32$; 95% CI = 57.26, 59.38; range = 50–84 years)</p> <p>Non-Hispanic White (68%), African American (15%), Hispanic (14.6%)</p> <p><i>Eligibility criteria</i></p> <ul style="list-style-type: none"> • Self-identified as a gay or bisexual male • Did not identify as transgender (due to small sample size) • Self-reported diagnosis of HIV <p>Country: USA Data collection date: 2014</p>	<ul style="list-style-type: none"> • Resilience (mean of 3 items, 6-point Likert scale) • Example: “I tend to bounce back quickly after hard times” • Mastery (mean of 4 items, 6-point Likert scale) • Example: “What happens to me in the future mostly depends on me” 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> Psychological HRQoL: psychological subscale of the World Health Organization Quality of Life-BREF (WHOQOL-BREF), a 6-item scale on a 5-point Likert scale ranging from 1—“not at all/very dissatisfied/never” to 5—“extremely/completely/very satisfied/always” 	<ul style="list-style-type: none"> • Resilience and mastery both positively associated with psychological HRQoL when controlling for covariates • When tested together in the same regression, both resilience and mastery were still associated with psychological HRQoL 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Examined multiple resilience resources • Sample of sexual minority population (older gay and bisexual men) with limited research on this population • Large sample size <p><i>Limitations</i></p> <ul style="list-style-type: none"> • Only looked at psychological HRQoL • Limited generalizability
5. Emlet et al. (2020)	<p>$N = 371$ HIV+ adults 50+ years, gay, and bisexual men ($M_{\text{age}} = 58.23$; 95% CI = 57.25, 59.21)</p> <p>Non-Hispanic White (60%)</p> <p><i>Eligibility criteria</i></p> <ul style="list-style-type: none"> • HIV+ gay and bisexual men 50 years and older <p>Country: USA Data collection date: 2014</p>	<ul style="list-style-type: none"> • Resilience: (mean of 3 items, 6-point Likert scale) • Example: “I tend to bounce back quickly after hard times” • Spirituality: (mean of 4 items, 6-point Likert scale) • Example: “I believe in a higher power or God who watches over me” 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> Poor general health (1 item, 5-point Likert scale: 1 = <i>excellent</i> to 5 = <i>poor</i>) 	<ul style="list-style-type: none"> • Resilience negatively associated with poor general health • Resilience-mediated relationship between HIV status and poor general health • Spirituality not associated with poor general health • Spirituality did not mediate the relationship between HIV status and poor general health 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Investigated multiple resilience resources and psychosocial factors • Sample of sexual minority population (older gay and bisexual men) with limited research on this population • Examined the resilience resources as mediators • Large sample size <p><i>Limitations</i></p> <ul style="list-style-type: none"> • Only measured physical general health • Limited generalizability
6. Fang et al. (2015)	<p>$N = 299$ adults 50+, gay, and bisexual men ($M_{\text{age}} = 55$)</p> <p>African American (59%), Non—African American (41%)</p>	<ul style="list-style-type: none"> • Resilience: measurement model of resilience was formed using two latent (active coping and social support) and two observed 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> • HRQoL: 10-item physical well-being; 10-item function and global well-being; 	<ul style="list-style-type: none"> • Resilience associated with better physical, emotional, and functional well-being • Resilience-mediated 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Tested resilience as a mediator • Large sample size • Tested resilience as a global construct with different factors

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
	<p><i>Eligibility criteria</i></p> <ul style="list-style-type: none"> • 50 years of age or older • Self-reporting HIV infection or AIDS • At least mild depressive symptom • Little or no cognitive impairment <p><i>Country:</i> New York, Ohio, USA</p> <p><i>Data collection date:</i> November 2004 to February 2007</p>	variables (coping self-efficacy and hope/optimism) through SEM	13-item emotional well-being	relationship between life stress and physical, emotional, and functional well-being	<p><i>Limitations</i></p> <ul style="list-style-type: none"> • Half of the sample had mild depressive symptoms and the results may not be generalizable
7. Fumaz et al. (2015)	<p><i>N</i> = 151 adults ($M_{\text{age}} = 50$, interquartile range = 47–54 years)</p> <p>No data on race/ethnicity^a</p> <p><i>Eligibility criteria</i></p> <ul style="list-style-type: none"> • Documented HIV+ • Age 45 years and older • A diagnosis of HIV+ for ≥ 10 years <p><i>Country:</i> Badalona, Barcelona Catalonia, Spain</p> <p><i>Data collection date:</i> November 2013 to March 2014</p>	<ul style="list-style-type: none"> • Resilience: Resilience Scale (RS-25) a 25-item survey with a Likert scale with rating from 1—7. Resilience scores were categorized into moderately high to high resilience, moderately low to moderate levels of resilience, and very low resilience for analysis 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary Outcome</i> • QoL: Nottingham Health Profile (NHP), 38 yes/no items related to health (e.g., pain, energy, sleep, etc). Higher = severity of problems 	<ul style="list-style-type: none"> • Moderate to high resilience univariately associated with higher levels of QoL (i.e., lower levels of problems on the NHP) • In multivariable logistic regression analysis, resilience was not associated with QoL 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Sample consists of individuals diagnosed with HIV for 10+ years • Diverse sample of participants <p><i>Limitations</i></p> <ul style="list-style-type: none"> • Did not present a regression model and explain which variables were specifically investigated • Small sample size
8. Hampton et al. (2013)	<p><i>N</i> = 99 HIV+ gay and bisexual men ages 50+ years ($M_{\text{age}} = 55.53$; $SD = 4.91$)</p> <p>African American (52%), Latino (13%), White (22%), and Other [Asian, Arabic, Caribbean, and/or as “mixed-race.”] (12%)</p> <p><i>Eligibility criteria</i></p> <ul style="list-style-type: none"> • 50 years or older • Diagnosed HIV+ • Born biologically male 	<ul style="list-style-type: none"> • Spirituality/religiosity: Ironson-Woods Spirituality/Religiousness (SR) Index short form, 25-item survey with Likert scale ranging from 1 to 5. Domains include 1. Comfort, strength, meaning; 2. Feeling a connection, less alone; 3. Existential/afterlife; 4. View of God; 5. Somatic, related to recovery from illness; 6. Religious behavior; 7. View of others/ 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> • Existential well-being scale, a 10-item survey on a Likert scale ranging from 1—“strongly disagree” to 6—“strongly agree” 	<ul style="list-style-type: none"> • Bivariate association between spirituality/religiosity and existential well-being 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Diversity of sample specifically related to socioeconomic status and education <p><i>Limitations</i></p> <ul style="list-style-type: none"> • Small sample • Spirituality and well-being not the focus of this article; hence, further analysis was not done

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
	<ul style="list-style-type: none"> • Still identifying as male at the time of assessment • Had sex with another male in the past 6 months Country: New York, USA Data collection date: March to August 2011	compassion for others			
9. Hopkins et al. (2022)	N = 174 HIV+ older adults 40+ years ($M_{age} = 51.30$; $SD = 7.03$) Non-White [predominantly African American] (86%), White (14%) Eligibility criteria <ul style="list-style-type: none"> • HIV+ adults 40 years and older • No major deficits or disorders affecting neurocognitive functioning • No gross sensory deficits • No head injury with loss of consciousness >30 min • Not currently undergoing chemo or radiation therapy Country: Alabama, USA Data collection date: Not reported	<ul style="list-style-type: none"> • Resilience: Connor–Davidson Resilience Scale-10 (CDRISC-10), a 10-item scale on a 5-point Likert scale ranging from 0—“not true at all” to 4—“true nearly all of the time” • Example: “I am able to adapt to change” and “Coping with stress can strengthen me” 	<ul style="list-style-type: none"> • Cross-sectional study • QoL: Medical Outcomes Study HIV Health Survey (MOS-HIV), a 35-item scale with 10 domains: general health perceptions, physical functioning, role functioning, pain, social functioning, mental health, energy/fatigue, health distress, cognitive functioning, and QoL 	<ul style="list-style-type: none"> • Resilience positively associated with better physical and mental HRQoL • Multivariable linear regression also show that resilience was significantly associated with mental HRQoL and not physical 	Strengths <ul style="list-style-type: none"> • Examine both physical and mental HRQoL Limitations <ul style="list-style-type: none"> • Small sample
10. Huang et al. (2018)	N = 160 HIV+ adults ($M_{age} = 50.15$, $SD = 7.49$) No data on race/ethnicity ^a Eligibility criteria <ul style="list-style-type: none"> • HIV+ • Married for 5+ years Country: Henan, China Data collection date: Not reported	<ul style="list-style-type: none"> • Resilience: Connor–Davidson Resilience Scale, a 25-item survey with a Likert scale with rating from 1 to 5 • Example: “I can deal with whatever comes” 	<ul style="list-style-type: none"> • Cross-sectional study • Primary outcome • General well-being: 5-item WHO Well-Being Index (WHO-5). Likert scale ranging from 1 to 5 • Example: “I have felt cheerful and in good spirits” • Physical and mental well-being measured with two 	<ul style="list-style-type: none"> • Resilience univariately associated with general well-being and inversely associated with physically and mentally unhealthy days • Individual resilience mediated association between family relationship, marital relationship 	Strengths <ul style="list-style-type: none"> • Mediation demonstrated that external resilience resources potentially improve overall well-being by enhancing individual resilience resources Limitations <ul style="list-style-type: none"> • Limited to participants who are married and was diagnosed with HIV

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
			items from the Healthy Days Module. Self-report of recent days they were physically and mentally unhealthy	and all three well-being indicators (i.e., general well-being and physically and mentally unhealthy days)	through blood donation • Small sample
11. King and Orel (2012)	Overall $N = 316$ ($N = 38$ HIV+ men 45+ years ($M_{age} = 53.5$, range 45–85 years) Caucasian (87%), African American (8%), biracial/other (5%) <i>Eligibility criteria</i> • Gay bisexual and other men who have sex with men 45 years or older • Diagnosed HIV+ <i>Country:</i> Massachusetts, Connecticut, Ohio, Oklahoma, Missouri, Pennsylvania, North Carolina, Florida, Michigan, Minnesota, California, Hawaii, Washington, Oregon, and Texas, USA <i>Data collection date:</i> 2005	• Resilience: Resiliency Scale (RS-14), a 14-item scale with a Likert scale with rating from 1 (strongly disagree) to 7 (strongly agree) • Examples: “I usually manage one way or another” and “I can get through difficult times because I’ve experienced difficulty before.” • Health locus of control: The Multidimensional Health Locus of Control Scale (MHLC), an 18-item survey with a Likert scale with ranging from 1—strongly disagree to 6—strongly agree • Example: “If I get sick, it is my own behavior which determines how soon I get well again”	• Cross-sectional study <i>Primary outcome</i> • Mental distress measured using the CONOR (COhort NORway) Mental Health Index (CONOR-MHI) • Physical health status: Single-item self-reported rating of overall physical health, with ratings from excellent, very good, good, fair, or poor	• Resilience negatively associated with mental health distress • Regression analysis revealed that health locus of control beliefs was positively associated with general health status	<i>Strengths</i> • Examined multiple resilience resources <i>Limitations</i> • Small sample • Not very diverse sample, 86.8% Caucasian • Use of nonparametric tests
12. Kteily-Hawa et al. (2019)	$N = 398$ HIV+ adult women 50+ years ($M_{age} = 55.81$, $SD = 5.25$) Caucasian (52%), African/Caribbean/Blacks (23%), indigenous (17%), other (8%) <i>Eligibility criteria</i> • Women 50 years and older • HIV+ <i>Country:</i> Ontario, Quebec, and British Columbia, Canada	• Resilience: The Resilience Scale, a 10-item survey with a Likert scale with rating from 1—disagree to 7—agree	• Cross-sectional study <i>Primary outcome</i> • Physical HRQoL using the Short Form Survey (SF-12), a 12-item survey with mixture of categorical yes/no responses and Likert responses on a 3-point or 5-point scale. Example: “in general, would you say your health is”	• Resilience positively associated with physical HRQoL	<i>Strengths</i> • Large diverse sample <i>Limitations</i> • Only examined physical HRQoL • Sample consisted of only women

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
	<i>Data collection date:</i> August 2013 to March 2015				
13. Liu et al. (2014)	Overall $N = 148$ ($N = 31$, subsample of older HIV+ adults) ($M_{age} = 58.4$; range: 50–80 years) No data on race/ethnicity ^a <i>Entry criteria</i> • Older adults +50 years • HIV+ <i>Country:</i> Nanning, China <i>Data collection date:</i> Not reported	• Self-efficacy: The General Self-Efficacy Scale, a 10-item scale on a 4-point scale ranging from 1—“not at all true” to 4 “exactly true” • Example: “I can always manage to solve difficult problems if I try hard enough”	• Cross-sectional study <i>Primary outcome</i> • QoL: World Health Organization Quality of Life Assessment (WHOQOL-BREF), 26 items with 4 domains: physical health, psychological health, social relationships, and environmental aspects Well-being: The WHO well-being index, a 5-item scale with ratings from: 0—“at no time” to 5—“all of the time”	• Self-Efficacy not associated with QoL or well-being	<i>Strengths</i> • Examined both QoL and well-being <i>Limitations</i> • Small sample
14. Nguyen et al. (2018)	$N = 176$ HIV+ adults ($M_{age} = 58.7$, $SD = 5.4$) African American/Black (69%), Non-Hispanic White (25%), Hispanic/Latino (6%) <i>Eligibility criteria</i> • HIV+ older men and women 50 years and older <i>Country:</i> Illinois, USA <i>Data collection date:</i> 2012	• Purpose in life: 10-item scale, high scores represent a greater sense of purpose	• Cross-sectional study <i>Primary outcome</i> • HRQoL: Self-reported Health Status (SRHS): 1 item rating of health—“Compared with other people your own age, would you say that your health is.” Responses were dichotomized into “poor/fair” and “good/excellent”	• Compared with participants who reported poor/fair health, those with good/excellent health had greater purpose in life • Lower purpose in life associated with a greater odd of worse/lower reported health	<i>Strengths</i> • Examine multiple physical health outcomes • Examined a less commonly researched resilience resource <i>Limitations</i> • No reported empirical support for the use of SRSR • Insufficient description of instruments used to measure variables of interest • Did not describe how SHRS was categorized in the logistic regression • Did not examine purpose in life and healthy days

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
15. Porter et al. (2017)	<p>$N = 914$ HIV+ adults ($M_{age} = 55.5$, $SD = 4.87$; range 50–78 years)</p> <p>Non-Hispanic Black (50%), Hispanic (33%), Non-Hispanic White (13%), Non-Hispanic other (4%)</p> <p><i>Eligibility Criteria</i></p> <ul style="list-style-type: none"> • HIV+ older adults 50 years and older <p><i>Country:</i> New York, USA</p> <p><i>Data collection date:</i> 2005</p>	<ul style="list-style-type: none"> • Spirituality: Spirituality Assessment Scale, a 28-item scale on a 6-point Likert scale ranging from 1—“strongly disagree” to 6—“strongly agree” • 4 domains: purpose in life, inner resources, interconnectedness, and transcendence 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> • Psychological well-being (PWB), 9-item scale on a 6-point Likert scale ranging from 1—“strongly disagree” to 6—“strongly agree” 	<ul style="list-style-type: none"> • Spirituality had a positive association with psychological well-being • Spirituality partially mediated relationship between stigma and PWB. The negative relationship between HIV stigma and PWB was lower for persons with high spirituality 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Investigated the mediating role of spirituality • Diverse sample (sexual orientation, race/ethnicity, education level) • Large sample <p><i>Limitations</i></p> <ul style="list-style-type: none"> • The effects of demographics and other potential covariates not examined
16. Porter et al. (2019)	<p>($N = 247$; subsample of HIV+ gay/bisexual adults) ($N = 364$; subsample of HIV+ heterosexual men) (sample $M_{age} = 55.69$, $SD = 4.98$; range 50–78 years)</p> <p>Non-Hispanic Black (49%), Hispanic (34%), Non-Hispanic White (17%)</p> <p><i>Eligibility criteria</i></p> <ul style="list-style-type: none"> • HIV+ aged 50 years and older • Proficient in English • No cognitive impairment that would interfere with completing the questionnaire <p><i>Country:</i> New York, USA</p> <p><i>Data collection date:</i> 2005</p>	<ul style="list-style-type: none"> • Spirituality: Spirituality Assessment Scale, 28 items on a 6-point Likert scale with responses ranging from 1—“strongly disagree” to 6—“strongly agree” • Four domains: purpose in life, inner resources, interconnectedness, and transcendence 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> • Psychological well-being (PWB): 9-item survey on a 6-point Likert ranging from 1—“strongly disagree” to 6—“strongly agree” 	<ul style="list-style-type: none"> • Spirituality positively associated with PWB for heterosexual and gay/bisexual men • Spirituality partially mediated relationship between stigma and PWB for heterosexual and gay/bisexual men. The negative relationship between HIV stigma and PWB was lower for persons with high spirituality 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Supported the role of spirituality as a buffering resource that is positively associated with psychological well-being • Large diverse sample size (race/ethnicity, education) • Sample included heterosexual men who are not commonly studied <p><i>Limitations</i></p> <ul style="list-style-type: none"> • Did not account for covariates

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
17. Slater et al. (2013)	<p><i>N</i> = 60 HIV+ older gay men 50+ years ($M_{\text{age}} = 54.6$; $SD = 3.8$ range 50–65 years)</p> <p>White/Caucasian (57%), Black/African American (42%), Asian (1%)</p> <p><i>Eligibility Criteria</i></p> <ul style="list-style-type: none"> • HIV+ gay men 50 years and older • Spoke English <p><i>Country</i>: Alabama, Georgia, and North Carolina, USA</p> <p><i>Data collection date</i>: September 2010 to April 2011</p>	<ul style="list-style-type: none"> • Coping: Family Coping Project Coping Scale, a 54-item scale on a 5-point Likert scale ranging from 0—“never” to 5—“always” • Five subscales: seeking/using social support, spiritual activities, avoidance, managing the illness, and focusing on others. The seeking/using social support, spiritual activities, and managing the illness subscales were combined to form a problem-focused coping measure, and the avoidance subscale was used as an emotion-focused coping measure 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> • QoL: HIV/AIDS Targeted Quality of Life instrument (HAT-QoL), a 34-item scale on a 5-point Likert scale ranging from 1—“all of the time” to 5—“none of the time” 	<ul style="list-style-type: none"> • In bivariate correlation analysis, there was a negative association with emotion-focused coping (avoidance) and QoL. There was a positive association between problem-focused coping and QoL • Using hierarchical linear regression, emotion focused coping (avoidance) had a negative association with QoL. No association found with problem-focused coping 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Examined two major styles of coping • Accounted for other meaningful variables in their model <p><i>Limitations</i></p> <ul style="list-style-type: none"> • Small sample • Convenience sampling • Instruments administered by researcher which could influence socially desirable answers
18. SoleimanvandiAzar et al. (2021)	<p><i>N</i> = 160 HIV+ older adults 50+ years ($M_{\text{age}} = 65.82$; $SD = 6.69$)</p> <p>No data on race/ethnicity^a</p> <p><i>Eligibility criteria</i></p> <ul style="list-style-type: none"> • HIV+ adults 50 years and older • Having no mental disorder that could interfere with study completion <p><i>Country</i>: Tehran, Iran</p> <p><i>Data collection date</i>: 2019</p>	<ul style="list-style-type: none"> • Coping: COPE scales, 25-item survey on a 5-point Likert scale ranging from 1—“never” to 5—“always” • Four domains: seeking social support, acceptance, disengagement/avoidance/escape, and direct action 	<ul style="list-style-type: none"> • Cross-sectional study <i>Primary outcome</i> • Positive state of mind scale (PSOM), 7-item survey on a 4-point Likert scale ranging from 0—“unable to have it” to 3—“have it easily” 	<ul style="list-style-type: none"> • Coping had a positive relationship with positive state of mind • Multivariable linear regression analysis also show a positive association between coping and PSM 	<p><i>Strengths</i></p> <ul style="list-style-type: none"> • Examine coping as a multidimensional resilience resource <p><i>Limitations</i></p> <ul style="list-style-type: none"> • Small sample • Sample of largely married and educated population, which may limit generalizability

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Table 2. (continued)

Study	Participants	Resilience Resource	Design/Outcomes	Findings	Strengths/Limitations
19. Xu et al. (2018)	<p>$N = 197$ HIV+ older adults 50+ years ($M_{age} = 59.7$; $SD = 7.54$)</p> <p>Minority ethnic group (53%), Majority ethnic group (46%) [no exact details]</p> <p>Eligibility criteria</p> <ul style="list-style-type: none"> • HIV+ adults 50 years and older • Spoke English <p>Country: Nanning, China</p> <p>Data collection date: Not reported</p>	<ul style="list-style-type: none"> • Resilience: The Resilience Measurement Scale was adapted from the Brief Resilience Scale and the Resilience Scale for Adults. This has 7 items on a 4-point Likert scale ranging from 0—"strongly disagree" to 3—"strongly agree" • Coping: Coping Self-efficacy scale, a 15-item survey on a 4-point scale ranging from 0—"No, I cannot do it at all" to 3—"Yes, I definitely can do it" <p>Items include "Make a plan of action and follow it when confronted with a problem"</p>	<ul style="list-style-type: none"> • Cross-sectional study Primary outcome • QoL: Chinese Quality of Life Scale, 6-item survey on a 5-point Likert scale ranging from 1—"very poor" to 5—"excellent" 	<ul style="list-style-type: none"> • Resilience and coping both positively associated with QoL • Multivariable linear regression also show that coping was associated with QoL 	<p>Strengths</p> <ul style="list-style-type: none"> • Examined multiple resilience resources • Study controlled for covariates • Adequate sample size <p>Limitations</p> <ul style="list-style-type: none"> • Did not examine resilience and QoL

Note. HDI = Healthy Days Index; HRQoL = health-related quality of life; NHP = Nottingham health Profile; SEM = structural equation modeling; SRHS = self-reported health status; PSM = positive state of mind; PWB = psychological well-being.

^aNo reported data on race/ethnicity, possibly due to the sample being largely homogenous.

years). Using univariate regression analysis, moderate to high levels of resilience were associated with higher levels of physical QoL (OR = .97, 95% CI = 0.950 to 0.988, $p = .002$). Resilience was not associated with QoL when accounting for age.

Emler et al. (2017) examined trait resilience and mastery as psychological resources and their association with psychological HRQoL among 335 gay and bisexual men living with HIV (mean age 58.32 years, range: 50–84 years). In a regression, resilience ($b = 8.91$, $p < .01$) and mastery ($b = 8.67$, $p < .01$) were both positively associated with psychological HRQoL when controlling for age, race, income, and education. When tested together in the same model, both resilience ($b = 7.10$, $p < .01$) and mastery ($b = 4.77$, $p < .01$) remained associated with psychological HRQoL.

Huang et al. (2018) examined trait resilience, well-being, and overall physical health among 160 older PWH (mean age 50.15 years, $SD = 7.49$). Bivariate correlations revealed that resilience was significantly associated with

fewer physically unhealthy days ($r = -0.43$, $p < .01$), fewer mentally unhealthy days ($r = -0.31$, $p < .01$), and better general well-being ($r = .40$, $p < .01$). Using SEM, resilience mediated the association between marital relationship and all three well-being indicators (i.e., general well-being [$\beta = .07$, 95% CI = 0.02 to 0.12], physically [$\beta = -0.32$, 95% CI = -0.56 to -0.07], and mentally unhealthy days [$\beta = -.28$, 95% CI = -0.53 to -0.03]). Resilience also mediated the association between family relationship, and only two of the well-being indicators (i.e., general well-being [$\beta = .31$, 95% CI = 0.02 to 0.59] and physically [$\beta = -.14$, 95% CI = -2.75 to -0.20]); the mediation was marginally significant for mentally unhealthy days [$\beta = -.12$, 95% CI = -2.51 to -0.01]).

Xu et al. (2018) investigated the interrelationship among ageism, trait resilience, coping, and QoL among 197 older PWH (mean age 59.7, $SD = 7.54$). Bivariate correlations showed that resilience ($r = .35$) and coping ($r = .28$) were both positively associated with QoL.

Table 3. JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies

	Were the Criteria for Inclusion in the Sample Clearly Defined? (i.e., HIV+)	Were the Study Subjects and the Setting Described in Detail?	Was the Exposure (i.e., Resilience Resources) Measured in a Valid and Reliable Way?	Were Objective Standard Criteria Used for Measurement of the Condition (i.e., HIV)?	Were Confounding Factors Identified?	Were Strategies to Deal with Confounding Factors Stated?	Were the Outcomes (i.e., Quality of Life) Measured in a Valid and Reliable Way?	Was Appropriate Statistical Analysis Used?	Overall Assessment
Brown et al. (2023)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Drewes et al. (2021)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Emlet et al. (2013)	✓	✓	✓	✓	✓	✓	X	✓	Y
Emlet et al. (2020)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Emlet et al. (2017)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Fang et al. (2015)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Fumaz et al. (2015)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Huang et al. (2018)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Hampton et al. (2013)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Hopkins et al. (2022)	✓	✓	✓	✓	✓	✓	✓	✓	Y
King and Orel (2012)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Kteily-Hawa et al. (2019)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Liu et al. (2014)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Nguyen et al. (2018)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Porter et al. (2017)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Porter et al. (2019)	✓	✓	✓	✓	✓	✓	✓	✓	Y
Slater et al. (2013)	✓	✓	✓	✓	✓	✓	✓	✓	Y

(continued on next page)

Table 3. (continued)

	Were the Criteria for Inclusion in the Sample Clearly Defined? (i.e., HIV+)	Were the Study Subjects and the Setting Described in Detail?	Was the Exposure (i.e., Resilience Resources) Measured in a Valid and Reliable Way?	Were Objective Standard Criteria Used for Measurement of the Condition (i.e., HIV)?	Were Confounding Factors Identified?	Were Strategies to Deal with Confounding Factors Stated?	Were the Outcomes (i.e., Quality of Life) Measured in a Valid and Reliable Way?	Was Appropriate Statistical Analysis Used?	Overall Assessment
Soleimanvand/Azar et al. (2021)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Xu et al. (2018)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note. ? = unclear; ✓ = (YES) included in review; x = (NO) excluded. JBI = Joanna Briggs Institute.

Kteily-Hawa et al. (2019) examined trait resilience and QoL among 398 older women living with HIV (mean age 55.81 years, *SD* = 5.25). Using regression, resilience was positively associated with HRQoL (adjusted coefficient $\beta = -.50$, 95% CI = 0.30 to 0.70, $p < .001$), while controlling for demographic factors such as age, race, and income.

Emler et al. (2020) examined risk and protective factors, and poor health among 371 older gay and bisexual men (mean age 58.23 years). This study used the same cohort as their earlier research (Emler et al., 2017); however, they examined additional resources and conducted mediational analysis. Regression analysis revealed that lower levels of trait resilience were positively associated with poor general health ($\beta = -.10$, $p < .05$) and mediated the association between HIV status and poor general health ($\beta = .03$, $p < .05$). The mediation showed that the association between HIV status and poor general health was higher for persons with lower levels of resilience. Spirituality was not associated with poor general health.

Hopkins et al. (2022) examined the association between trait resilience and QoL among 174 middle-aged and older PWH (mean age 51.30 years, *SD* = 7.03). In bivariate correlation analysis, resilience was positively associated with better physical ($r = .20$, $p < .01$) and mental ($r = .42$, $p < .01$) HRQoL. Multivariate linear regression, adjusting for covariates (SES, personality traits, depressive symptoms, cognitive performance, IADL declines), showed that resilience was a significant predictor of mental HRQoL ($\beta = .16$, $p = .02$) but not physical.

Brown et al. (2023) examined the associations between trait resilience and QoL among 156 older PWH (mean age 58.4 years; *SD* = 7.8). The study examined global and six subdomains of QoL: physical functioning, psychological functioning, personal autonomy (independence), social relationships, environment, and spirituality. Multiple linear regression, adjusting for covariates (gender, age, race, ethnicity, education, employment, and years since diagnosis), revealed that resilience was significantly associated with global ($\beta = .03$, $p = .025$), physical ($\beta = .24$, $p < .001$), psychological ($\beta = .26$, $p < .001$), personal autonomy/independence ($\beta = .15$, $p < .001$), social ($\beta = .17$, $p = .004$), and environment ($\beta = .32$, $p = .004$) QoL.

Spirituality. Hampton et al. (2013) explored patterns of religiosity, spirituality, and existential well-being among 99 older gay and bisexual men living with HIV (mean age 55.53 years, *SD* = 4.91). The study revealed a significant positive association between spirituality/religiosity and existential well-being ($\rho = .62$, $p < .01$).

Porter et al. (2017) examined the association between HIV stigma and psychological well-being and the mediating effect of spirituality among 914 PWH (mean age 55.5 years, $SD = 4.87$; range: 50–78 years). Using SEM, spirituality had a positive association with psychological well-being ($\beta = .59, p < .001$) and partially mediated the relationship between stigma and psychological well-being ($\beta = -.15, p < .001$). The negative relationship between HIV stigma and psychological well-being was lower for persons with high spirituality.

Porter et al. (2019) examined the mediating role of spirituality in the relationship between HIV stigma and psychological well-being among 364 heterosexual men and 247 gay/bisexual men living with HIV (combined mean age 55.69 years, $SD = 4.98$; range: 50–78 years). This study used a subsample of men from the same cohort as their earlier study (Porter et al., 2019). Using SEM, spirituality was positively associated with psychological well-being for both heterosexual ($\beta = -.51, p < .001$) and gay/bisexual men ($\beta = .73, p < .001$). Spirituality partially mediated the relationship between stigma and psychological well-being for both heterosexual ($\beta = -.12, p < .001$) and gay/bisexual ($\beta = -.24, p < .001$) men. The negative relationship between HIV stigma and psychological well-being was lower for persons with high spirituality.

Self-efficacy. Emler et al. (2013) examined the risk and protective factors associated with physical and mental HRQoL among 226 older gay and bisexual men living with HIV (mean age 62.97 years, $SD = 7.32$). Using multivariate linear regression, greater self-efficacy was significantly associated with better physical ($\beta = .35, p < .01$) and better mental ($\beta = .55, p < .01$) HRQoL, while accounting for covariates such as age, race/ethnicity, income, and education.

Liu et al. (2014) examined self-efficacy, well-being, and QoL among 31 PWH aged 50+ years (mean age 58.4 years, range: 50–80 years). Bivariate correlations revealed that perceived general self-efficacy was not significantly associated with physical QoL ($r = -.13, p > .05$), psychological QoL ($r = .16, p > .05$), social QoL ($r = .26, p > .05$), environmental QoL ($r = .23, p > .05$), or well-being ($r = -.28, p > .05$).

Coping. Slater et al. (2013) examined coping as a predictor of QoL in 60 older gay men living with HIV (mean age of 54.6 years, $SD = 3.8$; range: 50–65 years). In bivariate correlation analysis, there was a significant negative association with emotion-focused coping (avoidance) and QoL ($r = -.55, p < .01$). Using hierarchical linear regression, emotion-focused coping (avoidance) was negatively associated with QoL ($\beta = -.30, p < .001$) when adjusting for covariates such as age and comorbidities.

SoleimanvandiAzar et al. (2021) investigated coping and positive state of mind among 160 Iranian older PWH ages 50 years and older (mean age 65.82 years, $SD = 6.69$). Bivariate correlation analysis showed that coping had a significant positive relationship with positive state of mind ($r = .33, p < .001$). Follow-up multivariate linear regression analysis showed a positive association between coping and positive state of mind ($\beta = .23, p < .001$) when adjusting for age and education.

Purpose in life. Nguyen et al. (2018) explored risk and protective factors for HRQoL in older PWH (mean age 58.7 years, $SD = 5.4$). Compared with participants who reported poor/fair health, those with good/excellent health had greater purpose in life ($p = .006$). Using logistic regression, purpose in life was negatively associated with a greater odds of worse/lower health status ($OR = 0.46, p < .01$).

Adversarial growth. Drewes et al. (2021) explored AG as a mediator in the relationship between stigma dimensions (internalized, externalized) and self-rated health. The sample consisted of 839 older PWH (men and women) ages 50 years and older (mean age 56.9 years; $SD = 6.3$). Following regression analysis, AG was found to be negatively associated with poor self-rated health ($\beta = -.15, p < .001$). After controlling for covariates (age, education), mediation analysis revealed that AG mediated the relationship between internalized stigma and self-rated health ($\beta = -.14, p < .01$). Externalized stigma was not a significant predictor of AG in the mediational analysis on self-rated health ($\beta = .01; p = .34$); therefore, AG was not found to be a mediator.

Synthesis. Across all 19 studies, most studies found a positive association between intrapersonal resilience resources and QoL outcomes among PWH. The majority of the studies investigated trait resilience measures. Across the studies, the effect sizes ranged from small to large, with most being at least medium or large effect sizes. Several studies found that resilience resources were associated with QoL outcomes over and above accounting for relevant covariates such as sociodemographic variables and health. Several studies found that resilience resources served as a mediator between risk factors to QoL (e.g., stigma), highlighting the connecting role of resilience resources (further details in the Discussion).

Discussion

This systematic review focused on the association between intrapersonal resilience resources and QoL outcomes among older PWH. In the 19 studies reviewed, resilience measured as an individual trait was the most common resilience resource examined, using measures

such as the Connor–Davidson Resilience Scale or The Resilience Scale. Resilience was consistently defined as the individual's ability to recover from adverse experiences using personal resources or due to one's individual characteristics, and the measures used tapped into these factors. Trait resilience was positively associated with overall/general QoL, mental QoL, and physical QoL. Resilience was also found to mediate or indirectly affect QoL of older PWH when faced with various stressors, including general life stressors, stigma, and the stressors of living with HIV.

Spirituality emerged as another resilience resource that has been consistently examined across various studies. Spirituality was conceptualized as the use of spiritual belief or behaviors to manage stressors, such as praying or believing in a deity that protects against harm. Using this resource requires using one's own belief system to manage life challenges. Spirituality was positively associated with QoL and served as a protective factor (mediation) in the relationship between stressors and QoL.

Coping, self-efficacy, mastery, and purpose in life were less studied but had a similar positive association with QoL. Coping is the use of cognitive and behavioral strategies to manage stressful situations, whereas self-efficacy is conceptualized as an individuals' belief in their ability to execute a given behavior or overcome a particular challenge. Mastery was conceptualized as an individuals' sense of control over their own emotions, cognitions, behaviors, and general things that affect their lives. Purpose in life is seen as having an awareness of one's own goals and life path. These resources develop from various life experiences and self-knowledge and serve as individual protective factors.

Only four studies found no association between resilience resources and QoL outcomes. Emler et al. (2020) found no association between QoL and spirituality. In their regression model, they included other variables of interest (e.g., resilience, LGBT community engagement, social support), and these factors may have better association with QoL. Liu et al. (2014) found no association between QoL and self-efficacy. This could be attributed to the small sample size ($N = 31$) and the lack of power to detect significant associations. Two studies found no association with trait resilience and QoL (Fumaz et al., 2015; Hopkins et al., 2022). Fumaz et al. (2015) reported that less than 20% of their sample had low resilience, suggesting limited variability of participants with high and low resilience and ultimately influencing the results. Hopkins et al. (2022) noted that the lack of association between resilience and physical QoL is consistent with some prior research that suggest that psychological factors may not always play a significant

role in physical health and well-being. Overall, the association between resilience resources and QoL remained consistent across studies from different countries, suggesting that resilience is a universal resource across cultures.

Synthesis of Methodology

Study design. All the 19 studies were cross sectional. Associations between intrapersonal resilience resources and QoL over time need to be examined in longitudinal studies, which would provide insight on how resilience resources may change and develop over time, and how resilience resources may buffer negative impacts of stress on QoL and health outcomes and health behaviors. Fazeli et al. (2019) found that resilience attenuated the association between neurocognitive decline and everyday functioning. Fazeli, Woods, et al. (2020) and Fazeli, Waldrop-Valverde, et al. (2020) also found that resilience was associated with lower allostatic load, a composite biological marker of stress. Longitudinal studies should also examine how resilience resources may affect neurobiology and ultimately affect cognitive and everyday functioning. For example, Ourry et al. (2021) examined the association of QoL with structural, functional, and molecular brain imaging in community-dwelling older adults ages 65 years and older and found that physical QoL was positively associated with gray matter volume when adjusting for covariates, such as age, sex, education, and other domains of QoL. Similarly, Hahm et al. (2019) found a positive association between physical QoL and general health perception, and grey matter volume when accounting for other risk factors (e.g., smoking, alcohol use) and other comorbid conditions (e.g., depression, anxiety). The connection between resilience resources, QoL, and brain structure can be further explored among older PWH.

Sample. Half of the studies reviewed had a sample size below 200, which suggest the need for more studies with larger samples and sufficient power to detect meaningful associations. Most of the studies focused on gay and bisexual men and general adults (men and women), with only one study focusing specifically on women. More research is needed to investigate resilience resources among older PWH who are racial/ethnic minorities, of all genders and sexual orientations, and those who are disproportionately affected by HIV. Furthermore, given that the Deep South is an epicenter of the current HIV epidemic, further work is needed to examine resilience resources in this population of PWH who experiences a high burden of HIV disparities.

Data analysis. All 19 of the studies examined resilience resources through bivariate correlation analyses of QoL; however, 10 studies (Brown et al., 2023; Emler et al., 2013, 2017, 2020; Fumaz et al., 2015; Hopkins et al., 2022; Kteily-Hawa et al., 2019; Slater et al., 2013; SoleimanvandiAzar et al., 2021; Xu et al., 2018) further examined associations between resilience resources and QoL outcomes in multivariable analyses. Five studies (Drewes et al., 2021; Fang et al., 2015; Huang et al., 2018; Porter et al., 2017, 2019) investigated the mediating role of resilience resources, whereas no study examined its potential moderating role. Mediation was investigated using regression analysis and SEM. Only eight studies explicitly mentioned accounting for possible covariates in their data analysis, whereas the remaining studies only examined unadjusted bivariate associations between resilience and QoL, which makes it unclear if resilience is associated with better QoL in the context of other important factors that may affect QoL (e.g., mood, demographics, SES). The studies in our review examined the mediating role of resilience resources and select psychosocial factors: general life stressors, challenges of living with HIV, family/marital support, and stigma (internalized and experienced). More research is needed to investigate the mediating and moderating role of various resilience resources in the relationship between psychosocial risk factors and QoL. Older PWH face issues, such as stigma, racism, sexism, ageism, homophobia, and transphobia, that negatively affect their QoL and well-being. Future research on the buffering or protective role of resilience resources is important to inform care for older PWH. HIV-related stigma is consistently one of the most significant barriers to positive HIV-related health outcomes and behaviors such as ART adherence (Turan et al., 2017) and the overall QoL of PWH (Turan et al., 2017). Turan et al. (2017) discussed the possibility of internalized stigma (individual accepting negative messages related to HIV and applying it to themselves) undermining the existing intrapersonal resilience resources and leading to poor HIV health outcomes. More research would be required to explore this potential association.

Instruments. All the studies reviewed used questionnaires administered at a single time point to measure resilience resources, which offer average, global, and retrospective impressions of resilience resources that can be affected by recall bias. Research on resilience resources can be enhanced with the use of ecologically valid contextual approaches such as experience sampling methods or ecological momentary assessment to systematically collect “real-time” data from participants because they occur within their natural environment

(van Berkel et al., 2018). In such studies, participants would be asked to respond to queries through text messaging several times a day over several days (e.g., 7 days) on life stressors and the specific resilience resources used to navigate them. For example, when a stressor is reported, the type of stressor (e.g., work, relationships), severity, and initial appraisal (e.g., challenge vs. threat) would be reported, and then, follow-up questions would query on whether specific resources were employed (e.g., coping skills, positive reframing, enlisting social support). Such approaches can collect data on momentary stressors as they occur within one’s environment, the resilience resources they employ at that given time, and examine how this ultimately affects outcomes such as health behaviors and mental health.

Limitations and Implications for Nursing Practice

The findings from this systematic review have important clinical implications for health care professionals working with older PWH. First, it highlights the significance of intrapersonal resilience resources in promoting QoL outcomes among older PWH. Health care providers should consider assessing and addressing resilience factors, particularly trait resilience, spirituality, coping strategies, self-efficacy, mastery, and purpose in life, as part of comprehensive care for older PWH. This could involve integrating brief assessments [e.g., subscales from the COPE Inventory (Carver et al., 1989)] during patient intake or at follow-up visits alongside existing tools currently used in clinical practice. By focusing on enhancing these resilience resources, health care professionals can potentially improve overall QoL, mental QoL, and physical QoL in this population.

In addition, the review emphasizes the mediating role of resilience resources in the relationship between stressors and QoL among older PWH. Health care providers should recognize that older PWH may face various stressors, including general life stressors, stigma, and the challenges of living with HIV. By supporting and strengthening resilience resources, health care professionals can help mitigate the negative impact of stress on QoL outcomes. This may involve incorporating interventions that promote spirituality, coping skills, self-efficacy, mastery, and a sense of purpose in life into the care plans of older PWH. Moreover, health care professionals should also address and combat HIV-related stigma because it is a significant barrier to positive health outcomes and QoL among PWH. By understanding the potential association between internalized stigma and intrapersonal resilience resources, health care providers

can tailor interventions to reduce the impact of stigma on QoL and improve overall well-being for older PWH. For example, Fazeli et al. (2022) recognized the limited number of resilience resources-based interventions for older PWH and tested the feasibility of their pilot resilience-based intervention. Participants reported improvement in their resilience, mood, and ability to manage their HIV.

It is important to note some limitations of the review. The focus on intrapersonal resources excluded the examination of important interpersonal and community-based resources, such as social support, which are known to influence QoL among PWH. Health care providers should be mindful of the significance of these external resources and consider incorporating them into interventions and support networks for older PWH. Furthermore, the review primarily focused on older adults, and the generalizability of the findings to younger populations may be limited. Health care professionals should recognize that resilience factors and their impact on QoL that may differ among different age groups. Tailored interventions and support should be developed to address the unique needs of younger PWH. Finally, the review did not include intervention studies, and thus, the specific effects of resilience or stress-reduction interventions on QoL could not be determined. Future research should explore the effectiveness of interventions targeting resilience resources in improving QoL outcomes among older PWH.

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Author Contributions

All authors on this paper meet the four criteria for authorship as identified by the International Committee of Medical Journal Editors (ICMJE); all authors have contributed to the conception and design of the study, drafted or have been involved in revising this manuscript, reviewed the final version of this manuscript before submission, and agree to be accountable for all aspects of the work. Using the CRediT taxonomy, the specific contributions of each author is as follows: Conceptualization and Methodology: S. Haase, R. Billings, D. Vance, P. Fazeli; Software, Investigation and Data curation: R. Billings; Formal analysis & Writing original draft: S. Haase; Writing—review & editing: P. Fazeli; D. Vance; R. Billings; Supervision and Validation: D. Vance, P. Fazeli.

KEY CONSIDERATIONS

- Trait resilience, spirituality, and self-efficacy were the most common resilience resources investigated and were positively associated with the quality of life (QoL).
- More research is needed to examine the mediating and moderating role of resilience resources in the relationship between psychosocial risk factors and QoL.
- Longitudinal studies are important to investigate the long-term protective role of resilience resources in maintaining good QoL among older PWH, when faced with different stressors.
- Understanding which resilience resources are beneficial for older PWH can be used to develop interventions to improve QoL.

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