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REVIEW

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The Opportunity of Social Ecological Resilience in the Promotion of Youth Health and Wellbeing: A Narrative Review

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Youth experience adversity that increases their risk for immediate and long-term health consequences. Resilience has traditionally been conceptualized as an internal disposition or trait that supports youth to overcome that risk and avoid the negative impact on their health and wellbeing. However, this model of resilience overemphasizes the role of the individual and their capacity to control their environment, while minimizing the integral role of relational, social, structural, and cultural contexts in which they live. Instead, social ecological resilience (SER) emphasizes the influence of social and environmental factors on individual processes and outcomes and offers different pathways for preventive interventions to promote youth health and wellbeing. Within preventive medicine, it is important for researchers and practitioners to understand the processes that support or impede SER, particularly in youth when adversity can impact health throughout the lifespan. The purpose of this review was to examine the contributions and scope of the SER model in research on youth, with the goal of advancing SER-informed research and interventions within preventive medicine. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach as a guiding framework, we conducted a narrative review of the literature. The review characterizes 37 existing studies across the fields of education, psychology, and social work in terms of topic, focal population, methods, use of SER, and implications. We conclude with recommendations for future applications of SER to promote the health and wellbeing of youth.

INTRODUCTION

The social and environmental conditions in which people grow up, live, and work influence their health and wellbeing throughout the lifespan. These social determinants of health, including socioeconomic status, education, support networks, food, and neighborhood environments, have been linked to a myriad of ill physical and mental health and disease outcomes [1-4]. Preventive medicine seeks to promote health and wellbeing while reducing risk of ill health, which can be particularly important in childhood and adolescence as health beliefs

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Abbreviations: ACE, adverse childhood experience; PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses; SER, social ecological resilience.

Keywords: Social ecological resilience, youth, social ecology, resilience, adversity, adverse childhood experiences, narrative review

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and behaviors are developed [5,6].

Though social determinants of health can be considered in terms of both positive and negative factors, consequences and experiences, much attention has been given to the impact of the harmful circumstances that can cause poor health outcomes. For example, chronic exposure to adversity in childhood and adolescence can result in subsequent health problems throughout the lifespan [7,8]. Having multiple adverse childhood experiences (ACEs) such as abuse, neglect, or household adversity (eg, domestic violence, imprisonment, substance abuse) [9] has been linked to physical and psychosocial health problems in adulthood [10-12]. Subsequent studies have expanded ACEs to include community-level adversities such as economic hardship, community violence, bullying, and discrimination [13]. By early adolescence, youth who report multiple ACEs are at increased risk for emotional, behavioral, and physical health problems [8,14-19]. ACEs can also negatively impact broader social domains including relationships and other life circumstances in terms of housing, educational status and learning difficulties, social isolation, lower resilience, suicidal ideation, or risk behaviors (eg, drug use, criminal involvement, early pregnancy) [10,19,20]. The relationship is both immediate and cumulative, such that each additional ACE increases the risk of poor health and social consequences in childhood and adulthood [10-12,19]. Given the clear, established sequelae of childhood adversity and the multitude of social and environmental factors that contribute to current and future health and wellbeing of youth, significant attention has been given to intervening in childhood and adolescence in order to reduce risk and mitigate the longer-term negative health outcomes. However, the examination of youth adversity and problems in adolescent health have traditionally focused on individual "risk-factor reduction [3]" and largely ignored youth who are able to adjust and avoid negative health consequences, despite exposure to significant stress [21]. Moreover, this individualized model has also failed to acknowledge the societal and structural factors that contribute to health inequities. Needed within a preventive medicine approach is a model for promoting equitable health and wellbeing among youth facing adversity that incorporates social and environmental influences.

Some youth experience the protective factor of resilience—a multidimensional construct that can be expressed as a developmental outcome, patterns of positive adaptation, and set of coping strategies when faced with risk or adversity [22-24]. However, resilience has traditionally been viewed from a psychological lens as an internal disposition which individualizes resilience and minimizes the impact of social, structural, and cultural contexts [25-27]. In addition, most resiliency-based interventions to date are psychological in nature and focus on improving individual adjustment or functioning rather than addressing broader social and community level factors that impact adolescents [20]. Such an individualistic approach to resilience "potentially blam[es] those who do not cope and exonerate[s] the macro system of society from its responsibility to deal with adverse social conditions [28] (p. 238)." Thus, resilience researchers have shifted from a focus on internal factors to a social ecological systems paradigm.

The social ecological model of resilience builds off the work of Bronfenbrenner [29], who theorized a systems model of human development. Applied to resilience by Ungar [23,24], Theron [30,31], and others [32-34], social ecological resilience (SER) emphasizes the influence of the social and environmental context on individual processes and outcomes. Within the context of exposure to significant adversity, Ungar [23] defines resilience as "both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their wellbeing, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways (p. 225)."

SER has been conceptualized to include four layers of resilience that interact to influence health and wellbeing: 1) personal; 2) relational; 3) structural; and 4) spiritual/cultural [28]. The personal layer of SER includes an individual's traits, characteristics, and dispositions (eg, agency, self-esteem and motivation) that bolster an individual's ability to adapt following adversity [35]. The relational layer involves the supportive network of friends, peers, parents, family, community members, and professionals (eg, teachers, counselors, religious leaders, mentors) who serve as what some Indigenous communities call "circles of care [36]." The structural layer includes non-relational aspects of resilience in the social environment such as schools, community organizations, churches, social services, financial resources, and neighborhood safety. The spiritual/cultural layer reflects contextual aspects of SER related to the morals, ethics, values, and worldviews surrounding individuals (ie, dreams, indigenous traditions, guiding cultural philosophies, religious and spiritual beliefs, traditional practices, shared language, and heritage of an ethnic group). While the layers are described distinctly, there are interactions such that the personal layer is shaped by relationships, community resources, structural supports and inequalities, and societal beliefs. Understanding the relational, structural, and spiritual/cultural layers within SER is foundational to an equity perspective in preventive medicine, as access to resources, access to healthcare, systemic racism, ableism, and other forms of oppression are critical barriers to health for children and adolescents.

Given a growing focus on population health, the

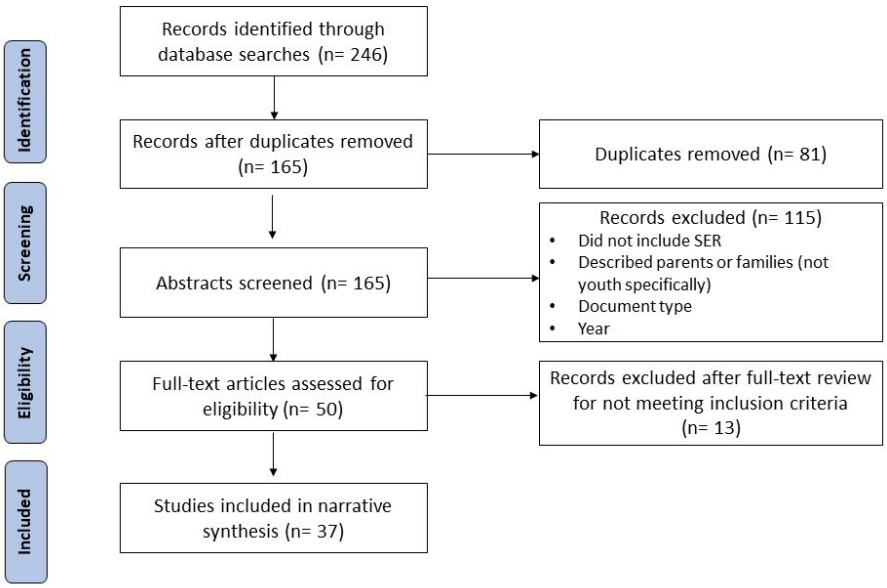

Figure 1. **Flow diagram of the search and review process**. Notes: Reproduced from Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. Ann Intern Med. 2009;151:264-269.

emphasis on salutogenesis versus pathogenesis, and the modifiable social conditions of health within preventive medicine and public health-related disciplines [37,38], it is important for researchers and practitioners to understand the processes that support or impede SER in response to adversity. Such an understanding would support a shift away from individual youth's risk or protective factors and the "disease-centric" models [37] of traditional medicine to an upstream focus on the social and structural influences on health and wellbeing [3]. Furthermore, a SER model offers an actionable opportunity to weaken the short- and long-term impacts of adversity in youth and modify trajectories toward positive health and wellbeing in adulthood [3,19]). Thus, the purpose of this narrative review is to explore how the social ecological model of resilience has been applied in research focusing on youth at risk for poor health. Our review characterizes existing studies, including interventions, in terms of field, topic, focal population, methods, use of SER, and implications. We conclude with recommendations for future applications of SER in preventive medicine to promote the health and wellbeing of youth.

METHOD

To describe the current literature on SER, we conducted a narrative review [39-41]. We used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach as a guiding framework [42], with modifications for narrative reviews suggested by Dickerson et al. [43]. A search was conducted using four health and social science databases (Scopus, PubMed, PsycINFO, and ERIC) to identify peer-reviewed articles published in English during the last 10 years (2010-current). Search terms in each database included: (social ecolog*) and (resilien* or resil*) and (children or child or youth or adolescen* or teenagers or teens). Conference proceedings, protocols, book chapters, theses, dissertations, and systematic reviews were not considered for analysis. Inclusion criteria were: 1) peer-reviewed research studies where original data was collected and analyzed, including quantitative, qualitative, and mixed methods research designs (omitting review articles, dissertations, and other gray literature); 2) explicit application of the SER model; 3) focus on children or adolescents under the age of 18 versus studies that were focused on parents or families but did not include youth specifically; and 4) studies written in English.

After the initial database search, we removed duplicates, reviewed abstracts for inclusion criteria, and subsequently obtained and coded full-text articles (see Figure 1). Following the procedure described in our previous review articles [44-47], we performed iterative coding and qualitative analysis, which included: 1) developing a codebook with initial definitions and codes based on existing literature (eg, type of article, study design, SER topic, layers of SER, etc.); 2) collaboratively reviewing articles to refine codes and definitions; 3) independently reviewing articles and applying codes; and 4) meeting to resolve any disagreements. Each full-text article was

reviewed by both investigators. Finally, we inductively analyzed patterns in the codes and summarized the characteristics of the included studies.

RESULTS

Thirty-seven manuscripts were included in the review and were published across a wide range of educational, psychology, health, social work, and child/family focused journals. Thirteen studies were conducted in Africa (all but one in South Africa) and 11 in North America (United States or Canada). Of the remaining studies, four occurred in Asian countries, four in European countries, two across multiple countries, two in New Zealand, and one in Australia. See Table 1 for details of each manuscript included in the review.

Topics

Although specific focal populations and their adversities varied widely, topics fell into two broad categories: education-related (eg, educational aspirations, experiences, achievement) and mental health and wellbeing (eg, adjustment, coping, and adaptation). For example, in the field of education, Berridge qualitatively examined trajectories of adolescents in public care (ie, foster care) through secondary schooling and identified four groups of young people in terms of agency and resilience related to attitudes to schooling and engagement with learning: 1. 'stressed/unresolved'; 2. 'committed/trusted support'; 3. 'private/self-reliant'; and 4. 'disengaged' [48]. Other articles investigated mental health and wellbeing in the context of adverse events—adjustment during armed conflict [49] or following suspected child maltreatment [50]—or psychological adjustment to an ongoing adversity, such as a chronic health condition or intellectual disability [51], poverty [52], or discrimination [53]. For instance, McDonald and Doostgharin evaluated a family-based intervention designed to promote resilience and wellbeing across children's social ecology. They found that the intervention was effective in enhancing the parent-child relationship, family functioning overall, and the child's behavior at school [54].

Youth Populations

Articles focused on the SER of youth of all ages. The youngest included children aged 4-5 years. For example, researchers wanted to understand first-grade children's perspectives about social ecological factors that promote or constrain resilience within early school experiences in a low-income suburb in Ireland [55]. The majority of the studies were focused on youth participants who were adolescents (ages 14-18). Other than a few studies that included a matched comparison group, virtually all youth participants could be considered vulnerable, underserved, or "at risk" in some way. Specific adversities and vulnerabilities included: discrimination and inequity due to racial, ethnic, gender and sexual identities; chronic medical conditions or mental illness; academic adversity; family structure and functioning; and housing and financial insecurity or poverty.

Study Design

Three articles evaluated interventions or programs while the majority measured various factors of SER in youth. In 22 articles, a qualitative research design was used with the majority employing one-on-one interviews. Eight studies used a quantitative research approach, typically with surveys and/or secondary databases. Seven studies reported a mixed methods research design most often combining data from interviews and surveys. Sample sizes ranged from n of 1 in case studies to 1477 in large longitudinal study across five countries.

SER Layers

We coded the 37 articles according to four layers of SER—personal, relational, structural, spiritual/cultural [28]. The vast majority emphasized more than one layer of SER (n=33). Thirteen articles examined all four layers, and 11 examined the personal, relational, and structural layers together. Four articles investigated the personal and relational layers, three the relational and structural layers, one the relational and spiritual/cultural layers, and one the personal and structural layers. In studies focused on the personal layer of SER, constructs included academic achievement [56], self-efficacy [57], and agency [48,58]. In the relational layer, constructs included teacher-learner partnerships [59] and social capital from meaningful relationships (eg, parents, peers, and pastors) [60]. Structural constructs included school activities, routines, and resources offered by the school [55], safe spaces in the community [51], local government organizations promoting youth activism [61], financial stability [56], neighborhood risk, and community cohesion [62]. Shared language [63], religious beliefs [64-66], future dreams [64], and cultural values and practices [66,67] all were included in studies examining the spiritual/cultural layer.

Just over one third of the articles included aspects of SER across all four layers (n=13). For example, Sleijpen and colleagues interviewed youth refugees living in the Netherlands about resilience-promoting factors and processes [68]. According to the 16 interviewed youth, resilience strategies were interrelated and included acting autonomously (personal layer), perceiving support from peers and parents (relational layer), performing at school (structural layer), and participating in the new society while retaining cultural background (spiritual/

Table 1. Characteristics of studies included in the narrative review.

Author	Focal Population and Setting	Purpose/Topic	SER Layers	Key Findings
Adegoke & Steyn (2018) [64]	Female adolescents (13-20) living with HIV in Nigeria	Understand how cultural influences promote resilience in adolescent girls with HIV	Relational, Spiritual	Girls had resilience through cultural identities and coping strategies, including dreams for the future, spirituality, and social support.
Asakura (2016) [53]	LGBTQ youth (16-24), illustrated by the case of a 20-year-old transgender youth in Canada	Apply SER model to social work practice and interventions	All	Resilience required more than individual resources but instead includes community resources, LGBTQ-friendly environments, and allies.
Asakura (2019) [82]	LGBTQ youth (16-24 years) and service providers in Canada	Describe LGBTQ youth's common adversities and how they experience positive adaptation	Personal	Resilience was reflected in LGBTQ youth's everyday ability to "show up" in face of general and LGBTQ-specific adversities.
Berridge (2017) [48]	Young people in foster care in England (11-16 years)	Explore youth perspectives on factors identified as predicting better educational progress for youth in foster care	Personal, Relational	Young people varied in their agency and resilience as it relates to attitudes toward schooling and engagement with learning. Four groups were identified: stressed/unresolved; committed/trusted support; private/self-reliant; and disengaged.
Bezuidenhout, Theron & Fritz (2018) [83]	School-going children (1st grade) in South Africa	Identify strategies for positive adjustment in children whose parents are divorcing	Personal, Relational, Structural	Resilience in first-grade children whose parents were divorcing experienced resilience through agency, meaning making, and systems of support.
Carotta, Bonomi, Knox, Blain, Dines & Cotton (2017) [56]	Low-income children (9-12 years) in US	Describe youth's experience of hope in low-income communities	Personal, Relational, Structural	Children experienced hope across multiple domains (hope for families and communities), while feeling less hopeful about meeting basic needs, financial security, and future aspirations.
DeJonckheere, Vaughn & Jacquez (2017) [63]	Latino immigrant children (8-14 years) in the US	Explore risk and protective factors identified by Latino youth in a non-traditional migration city	All	Protective factors for Latino immigrant children included family networks, peer networks, and school supports.
Erhard & Ben-Ami (2016) [71]	LGB secondary school students (15-18 years) in Israel	Identify protective factors in the educational experience of LGB youth	Personal, Relational	Ecological protective factors (eg, advocacy, peer support) played an essential role in supporting coping against homophobic bullying in schools.
Fourie & Theron (2012) [58]	Adolescent (16-year-old) with fragile X syndrome in US	Explore the resilience of an individual living with fragile X syndrome	All	Protective resources and resilience processes included intrapersonal agency, positive acceptance (eg, community and religious connection), and support toward mastery (eg, resources, medical care).
Goeke-Morey, Taylor, Merrilees, Cummings, Cairns & Shirlow (2013) [70]	Adolescents (6th-12th grade) in working class areas in Northern Ireland	Determine the impact of social ecological risk factors on adolescent educational outcomes	Relational, Structural	Youth expectations for educational achievement were negatively influenced by family and community environments (eg, violence, conflict).
Hall & Theron (2016) [51]	Adolescents (10-19) with intellectual disability and their teachers in South Africa	Describe the resilience of young people with an intellectual disability	Personal, Structural	Young people's social networks supported behavioral and emotional regulation, mastery, and agency while also offering safety.

Hamby, Taylor, Smith, Mitchell, Jones & Newlin (2019) [69]	Youth (10-21 years) and caregivers in the US	1) Identify social ecological constructs relevant to youth and 2) develop measures to assess the same constructs	Relational	Youth and caregivers identified relational motivation, group connectedness, and mattering as important aspects and family well-being as an outcome of resilience.
Jefferis & Theron (2017) [59]	Black, Sesotho-speaking adolescent (13-19) girls in rural South Africa	Explore how teachers support resilience among Black adolescent girls who experience structural risk factors	Relational	Teachers support adolescent girls' resilience through active listening and guidance, providing motivation, and offering support and resources to those who may be vulnerable.
Kumpulainen, Theron, Kahl, Bezuidenhout, Mikkola, Salmi, et al. (2016) [84]	Children (1st grade) in socioeconomically disadvantaged communities in South Africa and Finland	Compare children's school ecologies and the impact on their adjustment to first grade	All	School ecologies (eg, relationships, resources, cultural norms, etc.) were important in supporting resilience-supporting processes of children experiencing socio-economic adversity.
Li, Bottrell & Armstrong (2018) [67]	Resilient Chinese adolescents (15-18 years, 11th grade) in high-risk environments	Describe how Chinese adolescents develop academic and behavioral resilience	All	Individuals in adolescents' lives provide support related to their everyday lives, academic expectations and achievement, spirituality, behavior, available opportunities, and role modeling.
Liew, Cao, Hughes & Deutz (2018) [85]	Ethnically diverse students (1st-3rd grade) experiencing early academic adversity in the US	Test whether interpersonal relationships at school mediated the link between resilience and academic achievement	Personal, Relational	Peer relationships at school mediated the effect of resiliency on reading achievement for those who began school as struggling readers.
Lucier-Greer, O'Neal, Arnold, Mancini & Wickrama (2014) [57]	Youth (11-18 years) with a US military parent living outside of the US	Examine the relationship between risk factors and youth well-being	Personal	Three risk models showed that risk factors were predictive of depressive symptoms and academic performance, and the relationship was mediated by persistence.
Lys (2018) [65]	Female (trans-inclusive) adolescents (13-17 years) living in Indigenous communities in Canada	Explore female (trans-inclusive) youths' strategies for managing mental health adversity	All	Female (trans-inclusive) youth described coping strategies that included "grounding via nature," "strength through Indigenous cultures," connection with religious beliefs, artistic expression, and relationships and social supports.
Malindi (2018) [60]	School-going teenage mothers (16-19 years, 10th-12th grade) in South Africa	Explore mothers' perceived personal and social-ecological resources that support resilience	Personal, Relational	In addition to personal resources, social ecological resilience resources included social capital from partners, peers, and important adults (parents, teachers, and pastors).
Martinez-Torteya, Miller-Graff, Howell, & Figge (2017) [50]	Children (12-years) experiencing maltreatment in US	Identify profiles of resilience among children suspected of experiencing maltreatment	Personal, Relational, Structural	Children in the distinct "consistent resilience" profile were rated as well-adjusted by self, caregiver, and teachers, had positive relationships with parents, and lived in a neighborhood with high collective efficacy.
McDonald & Doostgharin (2013) [54]	Children (7-years) and their parents in Tajikistan, Kyrgyzstan, and Kazakhstan	Evaluate the adaptation of a multi-family, multi-system intervention to build youth resilience against stress and promote children's well-being.	Relational, Structural	Families reported improvements in family relationships (eg, cohesion, conflict), parent-child bond, child behavior (eg, behavior problems, prosocial behavior), child behavior at school, community relationships (eg, social support), and some improvements in parental involvement in education.

Miller-Graff, Howell, Scheid (2018) [86]	Mother-child dyads in the US (assessed at child age 1, 4, 6 years) where mothers had experienced significant violent victimization	Evaluate longitudinally the indirect relationship between mothers' social ecologies on children's later adjustment problems via maternal depression	Relational, Structural	Mothers' social ecologies (maternal victimization, family satisfaction, neighborhood quality) indirectly influenced later child adjustment at ages 4 and 6 through maternal depression.
Pretorius & Theron (2019) [52]	Urban, Sesotho-speaking adolescents (17-19 years old) in townships (structurally inferior or low-income area) in South Africa	Explore the risk and resilience experiences of adolescents living in townships	Personal, Relational, Structural	Adolescents described parental expectations as a challenge, while empowerment of influential women (mothers, relatives, teachers) promoted their resilience.
Sanders, Munford & Boden (2017) [87]	High school students (12-17 years at time of first interview) in New Zealand	Compare the way resilience influences educational aspirations in "vulnerable" youth and those "progressing in a more or less normative fashion" (p. 209)	Personal, Relational, Structural	Resilience mediated the relationship between risks and resources (eg, peer problems, depression, delinquency, prosocial behavior) and educational aspirations for both groups of adolescents.
Sanders, Munford, Liebenberg & Ungar (2017) [62]	Youth (both vulnerable and not-vulnerable based on social ecological risk and participation in social service systems) in New Zealand	1) Test the relationship between experiences of adversity and peer adaptation and 2) explore youth perceptions of social withdrawal from problematic peer relationships as a coping strategy	Personal, Relational, Structural	Some youth with high adversity reduced contact with antisocial peers as a way to cope but needed additional support from adults to fill the "relational void."
Sleijpen, Mooren, Kleber & Boeije (2017) [68]	Treatment-seeking refugee youth (13-21 years) in the Netherlands	Identify factors and processes that support resilience among young refugees	All	Youth described four resilience strategies that were context and time-specific: independence, school achievement, support from family and friends, and participation in society.
Tatlow-Golden, O'Farrelly, Booth, O'Rourke & Doyle (2015) [55]	School-going children (1st grade, 4-5 years old) from an economically disadvantaged community in Ireland	Explore children's perspectives on social ecological factors that influence resilience	Personal, Relational, Structural	Children identified resources, school activities, and relationships with teachers as promoting resilience.
Theron, Cockcroft & Wood (2017) [88]	Orphans and vulnerable children (9-14 years old) in South Africa	Evaluate the impact of a bibliotherapy intervention (listening to resilience-themed stories) on participants' awareness of resilience-supporting resources	All	Resilience-themed stories improved youth's awareness of personal and community resources, but not caregiving resources.
Theron, Liebenberg & Malindi (2014) [89]	Black South African youth (13-19 years) from poverty-stricken rural communities in South Africa	Investigate how respectful schooling experiences influence resilience among rural, Black South African adolescents	Personal, Relational, Structural	Youth in school environments that supported personal agency had higher resilience than those without supportive environments. Teachers nurtured youth resilience by promoting youth agency, educational and occupational aspirations, and coping.
Theron (2016) [31]	Rural, Black adolescents (13-19 years) in South Africa	Elucidate resilience-supporting processes among rural, Black South African adolescents and the cultural and contextual factors that influence resilience processes	All	Adolescents described common resilience-supporting processes that influence positive adjustment, emphasizing context-specific factors (eg, absent men, normative suffering) and cultural resources (eg, strong women, spirituality, beliefs about education).

Thomas, Tol, Vallipuram, Sivayokan, Jordans, Reis & de Jong (2016) [49]	Children and adolescents impacted by armed conflict in Sri Lanka	Describe the psychological impact of armed conflict on youth and available supports	All	Perceived impact on mental health included spiritual problems, moral problems, and perceived cultural decline; most of these problems were addressed within the family though support from neighbors, community organizations, health services, and religious or spiritual leaders was also important.
Ungar & Hadfield (2019) [90]	Youth (11-19 years) experiencing challenges (cultural or racial minorities, domestic violence, community violence, and/or lower SES) in Canada	Examine the potentially positive or negative impact of the social environment on youth well-being	Personal, Relational, Structural	Results showed both positive and negative impact of social environments on the relationship between resilience and behavioral outcomes.
van Breda & Dickens (2017) [91]	Youth (16-21 years) leaving residential foster care for independent living in South Africa	Explain differences in independent living outcomes among youth leaving residential care	All	Independent living outcomes were most influenced by resilience processes in the social environment (eg, community safety, family financial security) and social relationships (eg, family, friends, community).
van Rensburg, Theron & Rothmann (2019) [66]	Black, Sesotho-speaking, school-going adolescents (12-19 years) in South Africa	1) Test a social ecological model of resilience and 2) explore factors that promote resilience among Black, Sesotho-speaking adolescents	All	Results validated a social ecological model of resilience where resilience (measured as school attendance) is influenced by risk and protective factors (especially social skills, cultural resources, and spiritual resources).
van Rensburg, Theron & Rothmann (2018) [92]	Sesotho-speaking adolescents (13-19 years) in South Africa	Compare “resilient” and “less resilient” adolescents’ perceptions of available resources and use of formal supports	Personal, Relational, Structural	Resilient adolescents reported higher perceptions of physical and psychological caregiving, which was associated with more use of voluntary support services (eg, counselors, educators, healers) rather than mandated.
Walsh & Black (2018) [61]	Youth (14-28 years old) involved in social change and civic engagement education in Australia	Examine how organizations can support youth’s ability to create social or political change	Personal, Relational, Structural	Barriers experienced by youth included social and relational factors (eg, stereotyping) and material barriers (eg, financial resources), yet mentors, social networks, and local environments supported change.
Wood, Theron & Mayaba (2012) [93]	Children (9-14 years) orphaned by AIDS and living in South Africa	Evaluate the impact of an intervention (telling culturally sensitive stories to participants) on the resilient coping of children orphaned by AIDS	All	Culturally relevant stories improved children’s resilience to AIDS-related adversity during the intervention.

Abbreviations: LGB = Lesbian, gay, and bisexual; LGBTQ = Lesbian, gay, bisexual, transgender, and queer; SER = Social ecological resilience

cultural layer) [68]. Two articles concentrated on only the relational layer. For instance, Hamby et al. identified interpersonal factors such as group connectedness, relational motivation inspired by key adults, knowing your importance to significant others (ie, "mattering"), and family wellbeing as primary factors for youth within the relational layer of SER [69]. Two articles described only the personal layer even though the work was positioned within SER [53,57].

Application of SER Model

The primary purpose of many of the reviewed articles (n=14) was to further delineate the SER model by examining additional, understudied resilience factors and/or highlighting specific layers of SER. For instance, Walsh and colleagues investigated the structural layer of SER and highlighted the role of local government organizations in promoting the resilience and efficacy of Australian young people as active citizens as a unifying theme across three activist groups of young people [61]. The purpose of nine articles was to inform the practice of teachers, social workers, and other professionals who work with youth and/or to enhance future SER interventions and programming. In the face of ongoing political conflict in Northern Ireland, Goeke-Morey et al. found that turmoil in families (eg, conflict, low cohesion) and communities (eg, violence, antisocial behavior) was associated with problems in the school environment, including school behavior problems and poor academic achievement. As a result, the authors proposed SER-based interventions at the family and community levels that can support adolescents' educational outcomes [70]. Another nine articles concentrated directly on youth and their lived experiences, describing how various aspects of SER can buffer against adversity and support youth in healthy adjustment. For example, Erhard et al. [71] conducted a qualitative research study about the schooling experience of lesbian, gay, and bisexual (LGB) youth in Israel with the goal of enhancing youth SER-based coping mechanisms toward school homophobic bullying. Key findings included LGB youth's drawing on multiple SER coping strategies and resources to manage the negative effects of bullying [71]. Five of the reviewed articles highlighted the importance of context and heterogenous youth experiences within the SER model. Martinez-Torteya and colleagues, for instance, identified five distinct child profiles of adaptation (ie, consistent resilience, consistent maladaptation, posttraumatic stress problems, school maladaptation/family protection, and low socialization skills) which depended on the context of suspected child maltreatment as well as the relative functioning (eg, psychological adjustment, behavior) and social environment (eg, relationships, neighborhood) [50].

CONCLUSIONS AND OUTLOOK

The goal of this narrative literature review was to examine the contributions and scope of the SER model applied to research focused on youth, with the purpose of advancing SER-informed research and interventions within preventive medicine. Taken together, the 37 studies in this narrative review support the theory and applicability of SER to diverse youth populations challenged by a wide range of adversities in various settings. Moving away from the idea of resilience as an individualistic construct, the authors of the studies included in this review recognize the importance of the entire social ecology in resilience toward the health, adjustment, and wellbeing of youth.

Some of the reviewed articles point to the important role of the structural layer in the SER model, which includes systems, policy, and community-level change rather than blaming the young person for material disadvantages and the adverse community environments (eg, housing quality, community violence, etc.) in which they may find themselves. Such a viewpoint is integral to an equity perspective and aligns with the recent focus on social determinants of health within preventive medicine [72,73]. As van Breda and Theron [28] indicate, "a child growing up in poverty implies that the child is responsible for dealing with the effects of the macro structural forces that impinge on her or his life, and diverts attention away from these forces, instead of critiquing and dealing with them (p. 238)." Sometimes referred to as community resilience, the structural layer of SER reframes resilience away from the individual dispositions to the role of social determinants/influences of health and wellbeing, including institutions, social services, economic development, social networks, civic engagement, collective empowerment, and community advocacy [74]. Applied to health and medicine, the results of this narrative review suggest that addressing structural and social factors may also be particularly important in policy, interventions, and programs for youth experiencing adversity [20].

The reviewed articles support the idea that resilience "refers to a dynamic process that is context and time specific [68] (p. 348)." Specifically, the SER model prioritizes the interactions among the many different personal, social, cultural, and environmental factors related to youth resilience. As a result, the articles suggest that one-size-does-not-fit-all or most youth. Even within a SER model, individual youth have "diverse pathways of resilience [75]"—that is differing beliefs and experiences about what combinations of resilience factors (whether true or not) will serve as buffers, opportunities, and resources against a particular adversity. To date, the majority of interventions that target "at-risk" youth focus on supporting the development and maintenance of

individual-level protective factors [76] and not enough research has examined the influence of context- and culturally-specific preventive interventions that help to build youth resilience. Although resilience in a broad sense has increasingly gained recognition as an accepted framework within medicine [19,77], translation of the SER model to develop interventions within health and medicine is essentially nonexistent. Given the important role of resilience in helping youth to mitigate the variety of negative consequences of childhood aversity [12], future research should explore the longer-term impacts of SER interventions on aspects of health and wellbeing beyond psychological adjustment.

Additionally, more attention is needed to delineate the entire social ecology of resilience and resilience-related constructs in youth, particularly from the youth perspective (see for example, Ozer et al. [78] and Twum-Antwi et al. [79]). None of the reviewed articles mentioned youth engagement in the research process or partnerships with youth as co-researchers. Youth-led health research toward social action [80] and youth participatory action research [78,81] in which young people conduct research to improve problems in their schools and communities could further advance the field of SER in youth, while also promoting positive youth development outcomes for those who participate as co-researchers [80]. By partnering directly with youth, these approaches could be used to design more responsive and equity-focused SER interventions that serve a wider range of youth and move to a more tailored development of resilience interventions and programming.

Several factors may have limited our review. First, our review included English peer-reviewed articles for the last 10 years which may mean we missed important contributions. In addition, several articles reported the results of various components of a shared research program. For example, the Pathways to Resilience Research Project is a series of related longitudinal mixed methods studies in five countries (https://resilienceresearch.org/). Though this research program has produced sentinel articles on youth resilience, its overrepresentation in our results may have unduly influenced the conclusions of our review. Although we intentionally emphasized research studies which both used the SER nomenclature and directly applied the SER model, the vast majority of the reviewed studies came from the fields of psychology, social work, youth services, and education and were published in those discipline-specific journals. Therefore, there is much room to expand the application of the SER model more broadly within health and medicine.

The SER model is a holistic framework that coincides with preventive medicine's emphasis of the multifactorial influences on health and wellness. The SER model recognizes the complex social and cultural environments, disparities, and adversities that youth must negotiate on a daily basis. Furthermore, implementation of youth programming and interventions based on SER may offer important ACEs-buffering effects for youth at an opportune time to not only attenuate the short and longer-term impacts of adversity but also positively influence health promotion and disease prevention behaviors into adulthood.

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