

Mapping Global Trends and Research Frontiers in Developmental Assets: A Bibliometric Study

Ghina Syauqila

Master of Psychology, Faculty of Psychology, Universitas Diponegoro
Jl. Prof. Sunario, Semarang, Central Java 50275, Indonesia. Tel. +62-024-7460051.

Corresponding author*

syauqila26@gmail.com

Abstract: Youth are often regarded as period of heightened vulnerability, during which challenges arise from various domains. These conditions increase youth's susceptibility to multiple risks, particularly the deterioration of mental health. Therefore, youth require a set of protective factors known as developmental assets, which consist of internal assets (positive identity, positive values, commitment to learning, and social competencies) and external assets (support, empowerment, boundaries and expectations, and constructive use of time). However, the study using the developmental assets framework, as a conceptual model within positive psychology that has emerged over the past two decades, remains relatively limited. Through bibliometric analysis, this study aims to map and reveal global research trends on developmental assets to identify research gaps and recommend directions for future scientific advancement. The analysis included 994 articles retrieved from Scopus and ScienceDirect databases. Article identities, such as publication year, country, and journal outlet were extracted. Research foci and trends were mapped using VOSviewer and further interpreted through a thematic approach. The findings revealed a steady growth of developmental assets research, accompanied by eleven thematic clusters spanning identity development, mental health, risk and resilience, ecological systems, and youth-specific vulnerabilities. Geographically, the field remains dominated by Western countries, with limited contributions from non-Western contexts. Overall, the study underscores the expansion of this research area while highlighting the need for more culturally diverse and context-sensitive investigations.

Keywords: Bibliometric Study, Developmental Assets, Positive Psychology, Positive Youth Development.

Introduction

Referring to the developmental view, youth—individuals aged 15-24 years (United Nations, 2023)—are expected to develop a coherent sense of identity and growing autonomy (Arnett, 2004; Santrock, 2013; Stanley, 2016), while simultaneously cultivating intimacy and securing relational support from families, peers, and significant others (Doumen et al., 2012). However, this transitional period is also marked by heightened vulnerability to physical, psychological, and social challenges. Previous studies have shown that youth are disproportionately exposed to risky behaviors, substance use, and academic disengagement (Mahmoodabadi et al., 2023), as well as more severe mental health problems such as anxiety,

depression, body image concerns, insecurity, and feelings of worthlessness (Lidberg et al., 2023; Nesbitt et al., 2023). When left unaddressed, these challenges can interfere with developmental trajectories and hinder youths' transition into healthy adulthood.

To promote optimal development, Mahmoodabadi et al. (2023) argued that youth require protective factors that foster adaptive functioning—an idea central to the Positive Youth Development (PYD) framework. PYD emphasizes youths' strengths, potentials, and resources as foundational elements for positive, healthy developmental outcomes (Lerner et al., 2005; Pivec and Kozina, 2023). Among the most influential and widely applied PYD frameworks is the developmental assets, first conceptualized by

Benson and colleagues (Benson et al., 2011; Scales et al., 2000). Developmental assets refer to the internal and external resources that support youth to achieve optimal development, encourage school success, reduce risky behaviors, also increase prosocial behavior, leadership, and resilience (Benson et al., 2011).

Developmental assets are grouped into internal assets, which refer to individual qualities and internalized strengths—including positive values, commitment to learning, positive identity, and social competence—and external assets, which refer to resources provided by ecological environment and contextual support—including empowerment, support, boundaries and expectations, dan constructive use of time (Benson et al., 2011; Leffert et al., 1998). Initially designed for adolescents aged 12–18 (Benson et al., 2011), the framework has since been extended to broader youth populations, leading to a surge of empirical studies across diverse contexts (e.g., Kadir and Rusyda, 2022; Dost-Gözkan et al., 2021; Gomez-Baya et al., 2022; Hull et al., 2020; Kabir et al., 2021; Pashak et al., 2023). The growing body of research suggests that developmental assets have evolved into a multidimensional, cross-disciplinary concept employed in psychology, education, public health, social work, and community development (e.g., Elliott and Sherraden, 2013; Puxley and Chapin, 2021; Shek and Zhu, 2018; Strock-Lynskey and Keller, 2006; Weiss et al., 2024; Xiang et al., 2022).

Despite the rapid expansion of developmental assets research over the past two decades, there has been no comprehensive attempt to systematically map its global intellectual structure, thematic evolution, or emerging frontiers. Existing relevant reviews are typically narrative, context-specific, or limited to certain populations—such as in the European or low- and middle-income countries context, young people using e-cigarettes, or adolescents in foster care (e.g., Catalano et al., 2019; Kim et al., 2022; Kothari et al., 2020; Martin-Barrado and Gomez-Baya, 2024)—making it difficult to understand how the field has evolved conceptually, where scholarly attention has been concentrated, and which areas remain underexplored. Moreover, although developmental assets are increasingly applied to domains such as

trauma recovery (e.g., Lensch et al., 2019), justice-involved youth (e.g., Clements-Nolle and Waddington, 2019; Williams-Butler, 2018), digital behavior (e.g., Qin et al., 2023; Xiang et al., 2022), reproductive health (e.g., Oman et al., 2005), and ecological resilience (e.g., Helton and Keller, 2010), no study has synthesized these dispersed findings into a cohesive landscape capable of revealing the broader architecture of the field. As a result, the literature lacks a global overview that can illuminate both established foundations and emerging directions within developmental assets scholarship.

A bibliometric review is particularly valuable for addressing these gaps. Unlike traditional literature reviews, bibliometric analysis enables both quantitative mapping and visual representation of existing knowledge structures (Cobo et al., 2011), encompassing large and diverse bodies of research, revealing structural patterns, dominant clusters, and evolving thematic priorities. It allows researchers to identify emerging and declining trends, visualize conceptual linkages, and delineate interdisciplinary connections that are often overlooked in narrative synthesis. Such an approach offers an evidence-based platform for recognizing research gaps, understanding current research trajectories, and informing future scholarly and practical directions (Rashmi and Kataria, 2022). Given the global and rapidly diversifying nature of developmental assets research, a bibliometric approach provides a rigorous and timely means of understanding its conceptual development and scholarly evolution.

Therefore, the present study aims to map global trends and research frontiers in developmental assets through a comprehensive bibliometric analysis. Specifically, this study seeks to identify major thematic clusters within the developmental assets literature, uncover evolving research trajectories, highlight underexplored domains requiring scholarly attention, and provide a synthesized conceptual understanding that can guide future research, practice, and policy. Through these aims, this current study offers an integrative overview of the current state of knowledge and contributes meaningful insights for

advancing the developmental assets framework across diverse global contexts.

Materials And Methods

Study design

This study employed a bibliometric review design. The bibliometric analysis identified research trends on developmental assets, enabling both quantitative mapping and visual representation of existing knowledge structures (Cobo et al., 2011). This analysis offers an understanding of current research trajectories and guidance for further exploration (Rashmi and Kataria, 2022). Using the VOSviewer software, this stage examined publication year, countries, publication sources, research clusters, and research patterns.

Literature search process

The literature search was conducted systematically across two major databases: Scopus and ScienceDirect. In addition, the selection of keywords was a crucial step in ensuring the reliability and precision of the search results (Chen and Xiao, 2016). Therefore, the article search was conducted using a combination of topic-related keywords and Boolean logic. The keyword combination ("*developmental assets*" OR "*developmental asset*" OR "*youth assets*" OR "*youth asset*") AND ("*youth*" OR "*adolescent*" OR "*teen*" OR "*teenager*" OR "*emerging adult*" OR "*emerging adulthood*") was applied in Scopus. Meanwhile, in ScienceDirect, the keyword combination used was ("*developmental assets*" OR "*youth assets*") AND ("*youth*" OR "*adolescents*" OR "*teenager*" OR "*emerging adult*").

Inclusion and exclusion criteria

The inclusion criteria are the standards used to screen the literature for review. The literature included comprised empirical articles (quantitative, qualitative, and mixed-method studies) and non-empirical articles (review studies) related to developmental assets in a global scope, published in English or the Indonesian language, with no specific publication year range or other inclusion restrictions. This relaxed boundary for

literature collection was applied to obtain broad findings that comprehensively depict the trend map. Literature using keywords 'youth asset' and 'positive youth development' was also included, as not all studies explicitly identify or recognize 'developmental assets' as a defining keyword for the strengths that support adolescent and youth development. Some publications refer instead to 'youth asset', or embed protective developmental factors within the broader framework of positive youth development. Moreover, although researchers have examined these protective factors for several decades—initially conceptualized as 'youth assets', referring to a set of skills, competencies, relationships, and opportunities that enable young people to overcome challenges and transition healthily into adulthood (Bogenschneider, 1996; Oman et al., 2017)—the explicit psychological framework of 'developmental assets' only emerged later, first introduced in 1990, refined in 1995, and increasingly promoted in subsequent years (see Benson et al, 2011). However, document types other than journal articles (e.g., editorials, letters to the editor, appendices, etc.) and studies unrelated to developmental assets (or, broadly, youth assets and positive youth developments) were excluded from the review.

Procedure

The procedures of this current study included the following: First, we defined the research objectives, namely identify major thematic clusters within the developmental assets' literature, uncover evolving research trajectories, highlight underexplored domains requiring scholarly attention, and provide a synthesized conceptual understanding that can guide future research and practice. Second, we established inclusion and exclusion criteria to ensure the quality and relevance of the literature used. Third, we searched the literature across two databases using a keyword combination that yielded 994 records for screening. The search results were then exported to Mendeley in the Research Information System (RIS) format to facilitate data management. Fourth, we screened the articles manually to ensure that only literature relevant to developmental assets, immediately in

Mendeley, based on the inclusion criteria for the bibliometric analysis and eliminated 59 documents for several reasons: (1) published in languages other than English or Indonesian; (2) not suitable for analysis, such as editorials, abstracts, posters, tables, or tables of contents; (3) not relevant to the topics of developmental assets, youth assets, or positive youth development; and (4) outside the developmental scope of adolescence or youth, or involving participants who were not adolescents or youth as the solely population. As a result, 935 literature that met the inclusion criteria were selected and will be further analyzed. Fifth, we performed a bibliometric analysis. In this stage, we identified the year of publication, countries where the studies were conducted, and journals that published the studies. In particular, we used VOSviewer software to map research trends related to developmental assets and focal research areas through network visualization.

Data analysis

After generating the bibliometric maps using VOSviewer, including network visualization and overlay visualization, we conducted a thematic analysis of the resulting clusters to interpret the conceptual structure of the field. Each cluster was examined by reviewing the co-occurring keywords, their semantic relationships, and their conceptual relevance within adolescent and youth development literature. This interpretive process allowed us to identify overarching themes, trace how developmental assets have been applied across different domains, and synthesize the clusters into coherent thematic categories. The combination of quantitative mapping and qualitative thematic interpretation enabled a comprehensive understanding of both the structural patterns and the substantive meanings underlying the developmental assets research landscape.

Results And Discussion

Description of the extracted documents

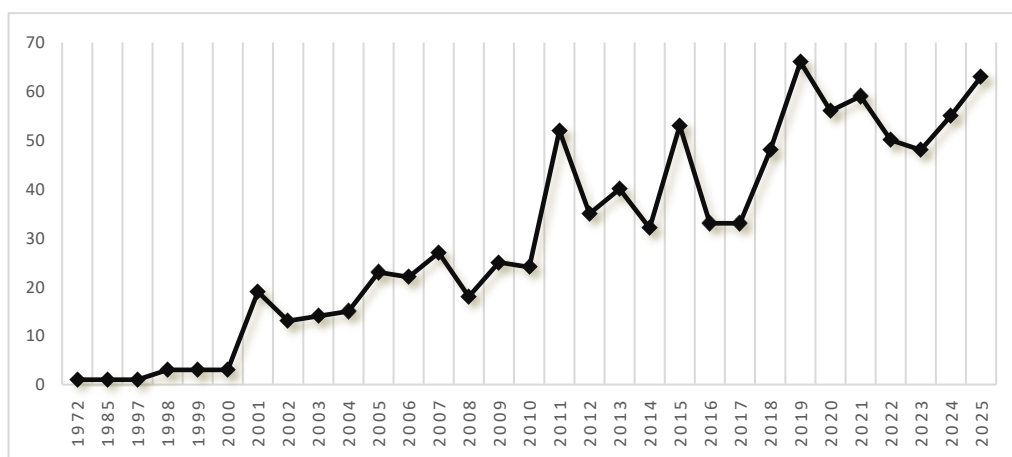


Figure 1. Publication per year (Source: author's own creation).

Figure 1 revealed the number of publications on developmental assets, indicating a clear upward trend in publications on developmental assets from 1972 to 2025. Research activity was minimal until the late 1990s, after which publications gradually increased following the formal introduction of the

developmental assets framework. A substantial surge appears between 2010 and 2020, reflecting the global expansion of Positive Youth Development research and the integration of developmental assets across education, health, and social science fields. Although the years after 2020

show some fluctuations, publication levels remain consistently high, indicating sustained and growing scholarly interest. Overall, the trajectory illustrates the evolution of developmental assets from an emerging concept into a widely applied and rapidly diversifying research domain.

Referring to the country of publication, a total of 55 countries contributed to developmental assets research. However, to improve visual interpretability, only countries with ≥ 10 publications are shown in the map. Figure 2 showed that the United States dominated the field with 308 publications, followed by Canada ($N = 33$), Hong Kong ($N = 25$), China ($N = 21$), Norway ($N = 19$), Spain ($N = 16$), Malaysia ($N = 13$), the United Kingdom ($N = 12$), Portugal ($N = 11$), and Brazil ($N = 10$). Meanwhile, developmental assets research in other regions remains limited, particularly in Africa and Australia. Within Asia,

Hong Kong, China, and Malaysia. However, the topic appears to be underrepresented in many other Asian countries, as indicated by the small number of publications identified in the database metadata—for instance, South Korea with seven studies, Turkey, Macao, and Iran with four, Kuwait and India with three, Taiwan with two, and the United Arab Emirates, Lebanon, Singapore, and Japan with only one publication each. Notably, no developmental assets research was identified from other Asian countries. It is evident that developmental assets scholarship, both theoretically and practically, has grown most rapidly in the Americas and Europe. Beyond the major contributors already mentioned, several other countries, such as Sweden, Germany, Chile, Italy, Romania, Poland, the Netherlands, Belgium, and Albania, have also published work in this area, although the numbers identified remain relatively limited.

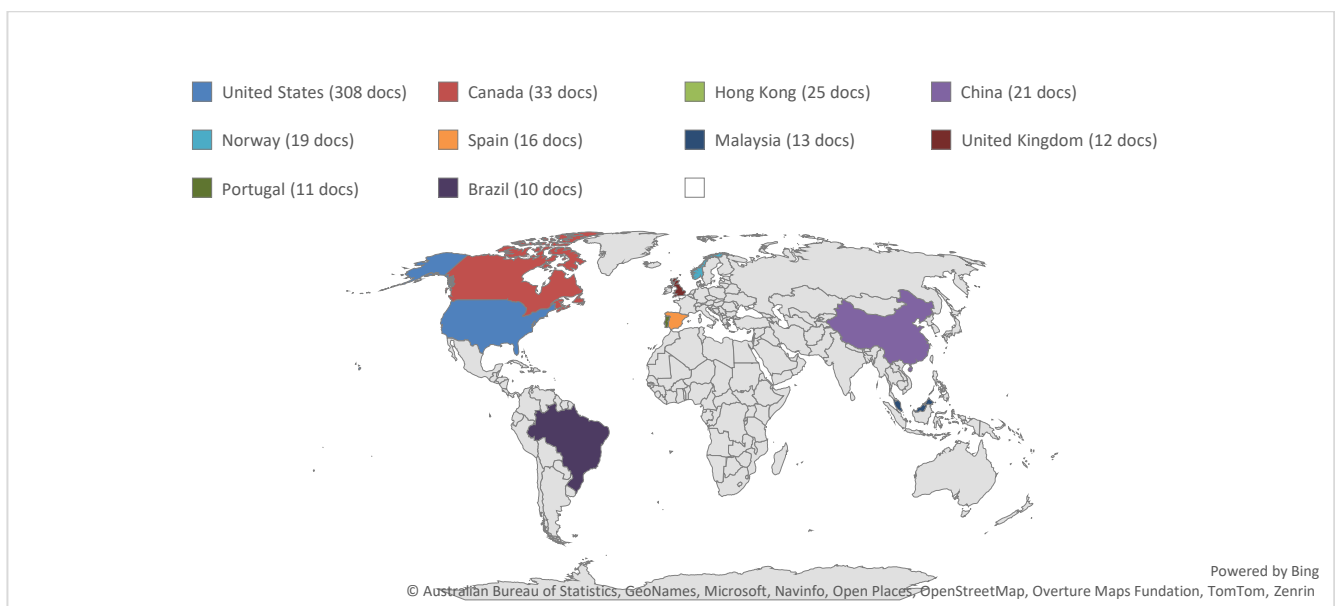


Figure 2. Publication per country (Source: author's own creation).

Furthermore, in terms of publication outlets, the extracted studies were published in 305 journals. For efficiency, we present only journals that have published at least 10 extracted articles. According to Table 1, the Children and Youth Services Review had the highest number of extracted articles ($N = 101$), followed by Journal of Adolescent Health in second order ($N = 93$) and Journal of Adolescence

in third order ($N = 46$). Based on SCImago Journal and Country Rank, these three journals address multidisciplinary issues of development and health of adolescents and young adults from various contexts, and are ranked Q1, with H-index values of 123, 145, and 204, respectively (SCImago Journal & Country Rank, 2024).

Cluster 2 in the dark green nodes also has 19 keywords loading on it, including: adolescent girls, adolescent, aging out of care, HIV, implementation science, internet addiction, intervention, life satisfaction, pregnancy, prevention, reproductive health, self-efficacy, self-esteem, sexual behavior, sexual health, social and emotional learning, subjective well-being, young adults, and young people. This cluster emphasizes **research on health-related assets and developmental outcomes associated with sexual and reproductive health**, reflecting how both personal competencies and preventive resources from risk behavior support youth during the transition toward adulthood.

Cluster 3 in the dark blue nodes has 15 items loading on it, including: adolescence, agency, bullying, childhood, development, executive function, family, foster care, identity, meaning, religiosity, spirituality, stress, sexual minority, and thriving. This cluster centers on **individual capacities and early developmental processes**. It is apparently underscores family, childhood and teenage experiences, and care services as an important foundation for early relational contexts as well as internal meaning-making, spiritual, emotional, and identity-construction capacities as later developmental outcomes.

Cluster 4 in the yellow nodes has 14 items loading on it, including: assets, child maltreatment, coping, health promotion, peer relationships, protective factors, resilience, risk, risk factors, self-regulation, substance use, suicide, trauma, and violence. This cluster focuses on the **intersection of risk exposure and protective mechanisms**. Research in this area positions developmental assets as critical buffers against adversity, illustrating how internal capacities and external supports protect youth from maladaptive outcomes and promote resilience.

Cluster 5 in the purple nodes has 14 items loading on it, including: belonging, civic engagement, connection, foster youth, group homes, leaving care, out of home care, program evaluation, service productivity, social competence, social support, sport, youth development, and youth mentoring. This cluster highlights **the role of relational and community-**

based assets. Moreover, the presence of foster youth, group homes, and leaving care indicates strong attention to vulnerable groups and the importance of supportive systems in enhancing developmental outcomes.

Cluster 6 in the light blue nodes also has 14 items loading on it, including: developmental regulations, developmental systems theory, disability, high school, mentoring self-regulation, mentoring, outcomes, parenting, participation, positive youth development, purpose in life, school climate, wellbeing, and youth sport. This cluster represents **the ecological and systems-oriented foundation of developmental assets**, conceptualizing developmental assets as embedded within interconnected ecological systems, particularly families, schools, and mentoring environments.

Cluster 7 in orange nodes has nine items loading on it, including: academic achievement, adolescent development, child welfare, children, delinquency, education, extracurricular activities, maltreatment, and mental health. This cluster links **developmental assets to academic functioning and behavioral adjustment**, underscoring schools as critical settings where assets facilitate academic success while reducing problematic behaviors.

Cluster 8 in brown nodes has seven items loading on it, including: adverse childhood experiences, gender differences, high school students, juvenile justice, resiliency, teen pregnancy prevention, and youth assets. This cluster focuses on **emerging research areas among youth vulnerability and justice-involved populations**, highlighting how developmental assets intersect with cultural risks, particularly among high-risk and marginalized youth.

Cluster 9 in pink nodes has seven items loading on it, including: achievement, assessment, at-risk-youth, developmental competencies, engagement, motivation, and self-control. This cluster encompasses **individual competencies and motivational strengths**, emphasizing how personal agency and motivational resources operate as universal assets, including for at-risk youth.

Cluster 10 in peach nodes has six items loading on it, including: adolescent, adolescent health, child, developmental assets, gender, and risk

outcomes, mental health, juvenile justice, and career development. Development assets were increasingly examined contextually within school, community, and justice-system ecologies. The ecological- or contextual-based intervention targeting healthy or positive developmental outcomes is also apparently starting to emerge. By 2019–2020 and beyond, as indicated by the yellow-green area, the field reached its most diverse and interdisciplinary phase, with a strong emphasis on wellbeing, school climate, social and emotional learning, self-efficacy, prosocial behavior, and life satisfaction. Topics such as adverse child experiences (ACEs), depression, anxiety, suicide, maltreatment, and internet addiction indicate a heightened focus on mental health and trauma-informed approaches. Issues of disability, social justice, coping, and at-risk youth further demonstrate the framework's expansion into equity-centered and contemporary developmental challenges.

Discussion

The present bibliometric review mapped the intellectual landscape of developmental assets research over the past decade, revealing a multidimensional field that has evolved far beyond its early conceptualizations. The findings indicate that prior to the 2000s, research focusing on positive youth development, particularly developmental assets, had not yet received substantial attention. Long before the Positive Youth Development (PYD) framework emerged, earlier researchers and clinicians often viewed adolescents and young people as inherently problematic and at risk, as individuals who needed to be “fixed” (Lerner and Lerner, 2013). In the early 1990s, however, this perspective began to shift, with youth increasingly viewed as resources—individuals possessing potential and capacities to be cultivated rather than problems to be managed—thus laying the foundation for the development of the PYD framework (Lerner et al., 2005). This historical shift helps explain why PYD scholarship first appeared in the 1990s. Yet, research specifically centered on developmental assets began to grow only after this PYD umbrella framework was introduced toward 2000 and

promoted more widely thereafter (Benson et al., 2011), as reflected in the steadily increasing number of publications over time in Figure 1, continuing through the present. From a geographical perspective, the Americas and Europe represent the regions with the highest number of developmental assets studies, whereas the topic appears to be less established in many other regions. This pattern reflects a Global North bias, echoing critiques associated with WEIRD-oriented research (Western, Educated, Industrialized, Rich, Democratic; Henrich et al., 2010). Consequently, this bias leaves notable gaps in understanding developmental assets within non-Western cultural contexts, while simultaneously underscoring the need for cross-cultural and contextually grounded research.

The identification of eleven distinct clusters provides a nuanced understanding of how developmental assets have been theorized, operationalized, and applied across diverse domains of adolescent and youth life. Rather than forming a narrow set of strengths or competencies, the thematic structure uncovered in this study depicts developmental assets as an integrative framework that bridges psychological, social, ecological, and structural dimensions of youth development. Across the clusters, a clear conceptual arc emerges. Several clusters (e.g., Cluster 1, Cluster 3, Cluster 9, Cluster 10) reflect the foundational internal and relational capacities associated with adolescence and youth—such as identity formation, agency, spirituality, self-efficacy, motivation, self-control, and core assets linked to health and risk behavior. These clusters reaffirm that developmental assets are deeply rooted in intrapersonal growth, spirituality, and meaning-making processes (King and Benson, 2006; Sink and Cleveland, 2012), shaped by the early developmental contexts of family, school, and community (Borowski, 2019). In contrast, other clusters point to the protective and compensatory functions of developmental assets. Cluster 4, for example, highlights the intersection of risk, trauma, and protective processes, illustrating that assets such as resilience, coping, and self-regulation are often forged or activated within contexts of adversity. The prominence of trauma, violence, and

maltreatment in this cluster suggests that developmental assets operate not only as catalysts for thriving but also as buffers against long-term harm (Bleck and DeBate, 2015).

Equally significant are the clusters that underscore the ecological and systemic nature of developmental assets. Cluster 5 and 6, which revolve around social connectedness, mentoring, parenting, and school climate, indicate that assets flourish within supportive relational and institutional systems. These findings echo the increasing movement toward ecological models of youth development—where families, schools, and communities co-construct developmental pathways rather (Bryan and Henry, 2017; Hoang et al., 2024) than serving as passive backdrops. Another notable insight arises from clusters addressing population-specific vulnerabilities (Cluster 8), such as juvenile justice involvement, gender disparities, teen pregnancy, and ACEs. Their emergence as distinct themes reveals a growing recognition that developmental assets are particularly salient for youth navigating structural inequalities and compounded risks (e.g., Clements-Nolle and Waddington, 2019; Grabbe dkk., 2023; Konaszewski dkk., 2021; Roth, 2012). This suggests a shift in the field from universalist assumptions toward more inclusive, context-sensitive understandings of how assets manifest across diverse lived experiences. Taken together, the eleven clusters portray a research landscape that has steadily expanded in scope—from foundational psychological constructs toward complex intersections of health, risk, justice, belonging, ecological systems, and long-term developmental outcomes.

The patterns revealed through the overlay visualization further reinforce the developmental arc identified in the network clusters, demonstrating how the field has progressively expanded from theoretical grounding toward increasingly complex, systemic applications. The chronological shift from early work emphasizing foundational constructs such as identity, meaning, and self-regulation toward later scholarship centered on resilience, mental health, ecological assets, school climate, and social justice reflects the same broadening observed across the clusters—

from individual capacities and relational supports to multidimensional risk contexts and structural determinants. This temporal progression highlights that developmental assets have not remained conceptually static; rather, they have evolved in response to emerging societal challenges and interdisciplinary insights, thereby strengthening the interpretation that the framework operates as a dynamic, context-responsive system embedded with psychological, relational, and ecological domains of youth development.

This study is not without limitations. First, the literature selection was conducted using only two databases and was restricted to publications in English and Indonesian, which may have excluded relevant studies published in other languages or indexed in other databases. Nonetheless, Scopus and ScienceDirect are two large and widely used databases with broad international journal coverage and comprehensive metadata, enabling this analysis to present a rigorous and reasonably representative overview of the focal areas and trends in developmental assets research. Additionally, English is the dominant publication language in global academic scholarship, making this restriction suitable for capturing a wide and internationally relevant body of literature. Second, we acknowledge that the operational definitions of ‘developmental assets’ and ‘youth assets’ in this study may overlap. Although the developmental assets framework specifically consists of 40 assets (Benson et al., 2011), our review indicates that the term ‘youth assets’ is used more broadly in the literature—often as an umbrella term referring to various internal and external competencies, relationships, and opportunities that support positive youth development. Theoretically, developmental assets can be understood as a subset within the broader concept of youth assets, and several publications also treat youth assets as part of developmental assets, as both refer to strengths that promote positive developmental pathways. Therefore, while terminological overlap is possible, the decision to include both terms allowed for a more comprehensive understanding of the research landscape concerning youth developmental strengths.

Nevertheless, the findings contribute several implications for theory and practice. First, the findings demonstrate that developmental assets have become a cross-disciplinary framework, used not only in psychology but also in public health, education, social work, criminology, community development, and gender studies. This reinforces the need to conceptualize developmental assets not as a static checklist of traits or environmental conditions, but as a dynamic, multilevel system that interacts across individual, relational, institutional, and structural layers. Second, the presence of clusters related to trauma, ACEs, justice-involved youth, and foster care suggests that developmental assets hold significant promise for addressing youth vulnerability and systemic inequalities. This positions the framework as a powerful tool for designing interventions tailored to high-risk populations, where the interplay of protective factors may be most consequential. Third, the clustering around school climate, mentoring, parenting, and community involvement underscores that developmental assets are ecologically anchored. These themes point toward a growing consensus that youth development cannot be disentangled from the relational and institutional systems that shape daily experiences. Thus, interventions aimed at strengthening development assets must incorporate whole-system approaches that transform school environments, family processes, and community structures, rather than just focusing on individual capacities. Fourth, the appearance of career development and well-being as a micro-cluster highlights a relatively nascent but meaningful emphasis on life-course transitions. This implies that developmental assets are not merely relevant to adolescence or youth; instead, they may influence long-term trajectories related to employment, autonomy, adult relationships, and quality of life. This signals a conceptual expansion of developmental assets into adulthood and beyond.

Future Directions: Mapping the New Frontier of Developmental Assets Research

Based on the thematic structure identified, several avenues for future inquiry emerge. Future research

should pursue multilevel and ecological models of developmental assets that capture interactions across individual, family, school, community, and structural systems. Integrating systems theory, network models, and longitudinal analyses will be essential to understanding how assets accumulate, interact, and transform across development. Second, the field would benefit from deeper engagement with youth facing complex vulnerabilities, including those in justice systems, foster care, poverty, marginalized groups, or with disabilities. Research is highly recommended to explore how assets are cultivated under chronic adversity, how protective mechanisms function in high-risk settings, and what culturally grounded interventions are most effective.

Third, the findings signal a significant gap in research addressing developmental contexts. Despite adolescents' and youths' immersion in digital worlds, developmental assets remain underexplored in relation to digital identity, online belonging, cyber risk, digital literacy, and social media engagement. Only internet addiction emerged as a keyword relevant solely to the digital setting in the current study, indicating a lack of investigation of developmental assets in this context. This represents a promising frontier, especially for digital native populations. Fourth, there is a critical need to examine longitudinal pathways linking developmental assets to adult outcomes, such as career readiness, relational and career well-being, as well as life purpose, meaning, and satisfaction. Doing so would extend the developmental assets framework beyond adolescence and youth, hence strengthening its relevance to life-course trajectories. Finally, future work must prioritize cross-cultural and context-sensitive models of developmental assets. Given that the current evidence base remains heavily concentrated in Western contexts, particularly in America and Europe, there is a significant need to expand research into non-Western settings to capture a more comprehensive picture of how assets develop across diverse cultural ecologies. Culturally responsive frameworks are essential to ensure that developmental assets are understood not only as universal constructs but also as culturally situated strengths shaped by values,

norms, and collective ecologies. Broadening the geographical scope of developmental assets research will not only address existing knowledge gaps but also strengthen the global relevance and applicability of the framework.

Conclusions

This bibliometric review provides a comprehensive mapping of the global landscape of developmental assets research over the past decades, revealing a field that has grown in theoretical depth, methodological diversity, and contextual breadth. By identifying eleven thematic clusters and tracing the evolution of research trends across time, this study demonstrates that developmental assets have increasingly been conceptualized as multidimensional strengths embedded within psychological, relational, and ecological systems. The overlay visualization further highlights a clear shift from foundational identity work toward contemporary emphases on mental health, school climate, adversity, well-being, and systemic inequities. Despite its Western-dominant research base, the field continues to expand, signaling both the vitality of developmental assets as an interdisciplinary framework and the need for broader cultural representation. Together, the findings not only consolidate existing knowledge but also illuminate critical gaps and future directions, calling for culturally grounded models, digital context models, and a broader life-span development landscape in examining developmental assets.

Conflict of Interest: The author declares that there are no conflicts of interest concerning the publication of this article.

References

- Benson PL, Scales PC, Syvertsen AK. 2011. *The contribution of the Developmental Assets framework to Positive Youth Development theory and practice*. 1st ed. Elsevier Inc.
- Bleck J, DeBate R. 2015. Long-term association between developmental assets and health behaviors: An exploratory study. *Health Education & Behavior* 43(5): 543–551.
- Borowski T. 2019. *Search Institute's Developmental Assets Framework*. www.search-institute.org [17 November 2025]
- Bryan J, Henry L. 2017. A model for building school – family – community partnerships: Principles and process. (October 2012). Epub ahead of print 2017. DOI: 10.1002/j.1556-6676.2012.00052.x.
- Catalano R, Skinner M, Alvarado G, et al. 2019. Positive Youth Development programs in low- and middle-income countries: A conceptual framework and systematic Review of efficacy. *Journal of Adolescent Health* 65.
- Chen G, Xiao L. 2016. Selecting publication keywords for domain analysis in bibliometrics: A comparison of three methods. *Journal of Informetrics* 10(1): 212–223.
- Clements-Nolle K, Waddington R. 2019. Adverse childhood experiences and psychological distress in juvenile offenders: The protective influence of resilience and youth assets. *Journal of Adolescent Health* 64(1). Elsevier Inc.: 49–55.
- Cobo M. J., López-Herrera AG, Herrera-Viedma E, et al. 2011. Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for Information Science and Technology* 62(7): 1382–1402.
- Dost-Gözkın A, Kozina A, Stefenel D, et al. 2021. External developmental assets and positive identity among emerging adults in Norway, Romania, Slovenia, and Turkey. *Frontiers in Psychology* 12(July).
- Doumen S, Smits I, Luyckx K, et al. 2012. Identity and perceived peer relationship quality in emerging adulthood: The mediating role of attachment-related emotions. *Journal of Adolescence* 35(6). Elsevier Ltd: 1417–1425.
- Elliott W, Sherraden M. 2013. Assets and educational achievement: Theory and evidence. *Economics of Education Review* 33: 1–7.
- Gomez-Baya D, Salinas-Perez JA, Sanchez-Lopez A, et al. 2022. The role of developmental assets in gender differences in anxiety in Spanish youth. *Frontiers in Psychiatry* 13(April): 1–12.
- Grabbe L, Duva I, Jackson D, et al. 2023. The impact of the Community Resiliency Model (CRM) on the mental well-being of youth at risk for violence: A study protocol. *Archives of Psychiatric Nursing* 46(March). Elsevier Inc.: 121–126.
- Helton L Keller S. 2010. Appalachian women: A Study of resiliency assets and cultural values. *Journal of Social Service Research - J SOC SERV RES* 36: 151–161.

- Henrich J, Heine SJ, Norenzayan A. 2010. The weirdest people in the world? *Behavioral and Brain Sciences* 33(2/3): 1–75.
- Hoang A, Sanders MR, Turner KMT, et al. 2024. Connecting families , schools , and communities : A systems-contextual approach to sustainable futures for children. (September 2023): 4505–4517.
- Hull DM, Powell MG, Fagan MA, et al. 2020. Positive youth development: A longitudinal quasi-experiment in Jamaica. *Journal of Applied Developmental Psychology* 67(February): 101118.
- Kabir RS, Doku DT, Wiium N. 2021. Connection in youth development key to the mental health continuum in Ghana: A Structural Equation Model of Thriving and Flourishing Indicators. *Frontiers in Psychology* 12(October).
- Kadir NBA, Rusyda HM. 2022. Developmental assets, creativity, thriving, and mental health among Malaysian emerging adults. *Frontiers in Psychology* 13(September): 1–13.
- Kim J, Lee S, Chun J. 2022. An international systematic review of prevalence, risk, and protective factors associated with young people's e-cigarette use. *International Journal of Environmental Research and Public Health* 19: 11570.
- King PE, Benson PL. 2006. Spiritual development and adolescent well being and thriving. In: *The Handbook of Spiritual Development in Childhood and Adolescence*. Eugene C. Thousand Oaks, CA: SAGE, pp. 384–398.
- Konaszewski K, Niesiobędzka M, Surzykiewicz J. 2021. Resilience and mental health among juveniles: role of strategies for coping with stress. *Health and Quality of Life Outcomes* 19(1). BioMed Central: 1–13.
- Kothari B, Blakeslee J, Miller R. 2020. Individual and interpersonal factors associated with psychosocial functioning among adolescents in foster care: A scoping review. *Children and Youth Services Review* 118: 105454.
- Leffert N, Benson PL, Scales PC, et al. 1998. Developmental assets: Measurement and prediction of risk behaviors among adolescents. *Applied Developmental Science* 2(4): 209–230.
- Lensch T, Clements-Nolle K, Oman R, et al. 2019. A longitudinal study of the protective influence of youth assets on juvenile arrest. *Journal of public health (Oxford, England)* 43.
- Lerner RM, Lerner JV. 2013. *The positive development of youth: Comprehensive findings from the 4-H study of Positive Youth Development*. Maryland.
- Lerner RM, Lerner JV., Almerigi JB, et al. 2005. Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents: Findings from the first wave of the 4-H study of positive youth development. *Journal of Early Adolescence* 25(1): 17–71.
- Lidberg J, Berne S, Frisén A. 2023. Challenges in emerging adulthood related to the impact of childhood bullying victimization. *Emerging Adulthood* 11(2): 346–364.
- Mahmoodabadi ZHZ, Ebrahimi A, Soorshjani RH. 2023. Effectiveness of the Positive Youth Development (PYD) program on reducing aggression among high school female students. *BMC Women's Health* 23(1): 1–8
- Martin-Barrado AD, Gomez-Baya D. 2024. A scoping review of the research evidence of the developmental assets model in Europe. *Frontiers in Psychology* 15(July).
- Nesbitt AE, Sabiston CM, deJonge ML, et al. 2023. A scoping review of resilience among transition-age youth with serious mental illness: tensions, knowledge gaps, and future directions. *BMC Psychiatry* 23(1). BioMed Central: 1–27.
- Oman R, Vesely S, Aspy C. 2005. Youth assets, aggression, and delinquency within the context of family structure. *American journal of health behavior* 29: 557–568.
- Pashak TJ, Tunstall MD, Booms A V., et al. 2023. Trauma resilience on campus: The moderating effect of developmental assets in the link between trauma exposure and posttraumatic symptomatology in college emerging adults. *Traumatology*.
- Pivec T, Kozina A. 2023. Anxiety and COVID-19 anxiety in Positive Youth Development: A latent profile analysis study. *Journal of Youth and Adolescence* 52(11). Springer US: 2328–2343.
- Puxley S, Chapin L. 2021. Building youth leadership skills and community awareness: Engagement of rural youth with a community-based leadership program. *Journal of Community Psychology* 49: 1063–1078.
- Qin X, Zhang W, Xu S, et al. 2023. Characteristics and related factors of family functioning in Chinese families during early pregnancy. *Frontiers in Psychology* 14(February): 1–7.
- Rashmi K, Kataria A. 2022. Work–life balance: A systematic literature review and bibliometric analysis. *International Journal of Sociology and Social Policy* 42(11–12): 1028–1065.
- Roth EG. 2012. Juvenile offenders' self-perceptions of resilience during an intervention program. Epub ahead of print 2012.
- Scales PC, Benson PL, Leffert N, et al. 2000. Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science* 4(1): 27–46.
- Shek DTL, Zhu X. 2018. Self-reported risk and delinquent behavior and problem behavioral intention in Hong Kong adolescents: The role of moral competence and spirituality. 9(March).
- Sink CA, Cleveland R. 2012. Spirituality an untapped developmental asset: Implications for school

- counselling. *Counselling and Spirituality / Counseling et spiritualité*.
- Stanley P. 2016. 'Twenty something': The social policy and practice implications of emerging adulthood. *Aotearoa New Zealand Social Work* 23(3): 50–57.
- Strock-Lynskey D, Keller D. 2006. Integrating a family-centered approach into social work practice with families of children and adolescents with disabilities. *Journal of social work in disability & rehabilitation* 6: 111–134.
- Weiss E, Araque J, Enrile A, et al. 2024. Societal perceptions and developmental assets of Latina youth from low-income schools: Implications for social work prevention efforts. *Advances in Social Work* 24: 187–204.
- Williams-Butler A. 2018. Reducing delinquency among African American youth in foster care: Does gender make a difference in crossover prevention? *Children and Youth Services Review* 94.
- Xiang G-X, Gan X, Jin X, et al. 2022. The more developmental assets, the less internet gaming disorder? Testing the cumulative effect and longitudinal mechanism during the COVID-19 pandemic. *Current Psychology* 43.
- Xiang G, Gan X, Jin X, et al. 2022. Developmental assets, self-control and internet gaming disorder in adolescence: Testing a moderated mediation model in a longitudinal study. 10(February): 1–9.