

REVIEW ARTICLE

Developmental assets in emerging adulthood—Systematic review

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ABSTRACT

Characterizing emerging adulthood as a period of the life course has proven to be relevant in understanding development and intervention with a focus on a positive orientation in the life course trajectory. Characterized by individualization, this period implies that people are increasingly compelled to depend on their own resources to build their life course trajectory. Identifying which resources place the person on a positive developmental trajectory becomes more relevant. Within the field of the Positive Youth Development, the Developmental Assets® model specifically focuses on which resources, that is, which personal and contextual characteristics of emerging adults can favor a positive orientation in the trajectory of the life course. The objective of this investigation is to analyze the utilization of the Developmental Assets model in the emerging adult population. In the review process, the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) protocol was applied. Research was conducted in July 2023 in electronic databases, namely: Web of Science, Scopus, Science Direct, ERIC, PsycArticles, SciELO and B-on. In this review, 13 articles published between 1999 and 2023 were included. Results indicate diversity in adopted methods, both on conceptualization of the concept and its operationalization. Results of the analysis of studies included indicate the relevance of applying the Developmental Assets model in emerging adults and the importance of its exploration in future investigations. The utilization of the model in the population of emerging adults is suggested as a strategy focusing on a positive developmental trajectory.

Keywords: developmental assets; emerging adulthood; systematic review; positive youth development

1. Introduction

Understanding the characteristics of successful development is the fundamental objective in developmental science. A particularity observed in development stands out in the path that individuals take from dependence in childhood and adolescence to independence in adulthood, which today constitutes a longer and complex period than at any other time in history^[1–10]. Arnett^[5] highlights in fact that social, cultural and economic changes have led to an extension of the path to adulthood, especially in more economically developed countries, in such a way that the period from approximately 18 to 29 years of age constitutes a

ARTICLE INFO

Received: 3 January 2024 | Accepted: 15 January 2024 | Available online: 11 March 2024

CITATION

Soares AS, Pais-Ribeiro JL, Silva I. Developmental assets in emerging adulthood—Systematic review. *Environment and Social Psychology* 2024; 9(6): 2360. doi: 10.54517/esp.v9i6.2360

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distinct period of life that does not consist of either adolescence or adulthood. Arnett^[1] suggested naming this period of emerging adulthood, reflecting the fact that it is characterized although not fully defined in its nature by a period of transition. The term briefly appeared in the literature^[8,11], until it was confirmed by Arnett, in his article published in 2000^[1]. Thus, initial studies focused on individuals aged between 18 and 25 years^[1], noting that subsequent studies tend to expand this age range up to 29 years old^[5-10].

In this sense, the designated emerging adulthood, observed as a result of changes in the lives of young people belonging to more economically developed societies, arises from the recognition that the transition to adulthood constitutes not just a transition, but a distinct period of the life course^[12]. Contextual, cultural and historical particularities made the path to independence and adulthood increasingly prolonged, complex and varied, thus creating a new stage in the course of life^[1]. Arnett^[6,12] explains that emerging adulthood thus constituted a distinct term for a distinct period. Although not all developmental science researchers agree that emerging adulthood constitutes a new stage of development, there is in fact a consensus that in recent years the social and economic situation has in fact prolonged the adult life experience, with relevance of roles, tasks and developmental challenges^[13,14].

Arnett^[3] proposed five defining characteristics of emerging adulthood that make it distinct, constituting: the age of identity explorations, the age of instability, the age of self-focus, the age of feeling in-between, and the age of experience of possibilities. Also, Arnett^[3,12] notes that emerging adulthood can be the most heterogeneous period of the life course since it is the least structured period, suggesting for this reason these five characteristics not as universal characteristics, but as characteristics which are more common during emerging adulthood compared to other periods of the life course. Arnett^[12] explains that these five characteristics are experienced not discretely, but gradually. Emerging adulthood, a culturally constructed stage of development, is distinguished by the relative independence of social roles and normative expectations^[12]. This perspective reflects the three markers considered most important for achieving adult status in different countries and cultures, which are achieved gradually over the course of emerging adulthood, namely making independent decisions, taking responsibility for oneself, and becoming financially independent^[6,12]. Wood et al.^[14] explain that this perspective thus goes beyond a perspective that shows the transitions from adolescence to emerging adulthood, and from emerging adulthood to young adulthood, as more discrete in some aspects, applying, namely, transitions from adolescence to emerging adulthood such as: the development of qualities and characteristics necessary for the person to become independent, commit to stable and quality intimate relationships, assume roles and responsibilities inherent to adulthood, as well as obtain an educational level which establishes the professional basis during adulthood.

It should be noted that this gradual passage from one period to another may apply not only to emerging adulthood, but to the entire course of adult life, given the observation that the life course in more economically developed societies has become increasingly more characterized by individualization which implies that institutional supports have become less significant, leading to people being increasingly compelled to depend on their own resources to build their trajectory from one phase of the life course to the next, thus implying the results, both for better and for worse^[12].

In this sense, the question lies in identifying which personal resources place the person on a positive developmental trajectory. In this context, the Positive Youth Development perspective stands out as an important approach that encourages young people to develop and express their strengths and resources^[14-19]. Within this perspective, the model known as Developmental Assets[®]^[20-22] stands out, developed by the Search Institute, which specifically focuses on which resources, that is, which characteristics personal and contextual aspects of emerging adults that can favor a positive orientation in the trajectory of the life course. The model has demonstrated its applicability in different periods of development and in different cultures^[21,22], noting that,

particularly in the transition to adulthood, research has explored its usefulness in understanding a positive developmental trajectory throughout emerging adulthood^[23–28]. The Developmental Assets model identifies a total of 40 individual assets important in the development of young people, constituting personal qualities, values, relationships and opportunities that can be explored in this period of development. These assets are conceptually organized into two general dimensions: twenty Internal Assets and twenty External Assets. In other words, Internal or individual Assets refer to young people's personal characteristics, beliefs, values, skills, their development constituting an idiosyncratic process of self-regulation. In turn, External or contextual Assets refer to the experiences, relationships, opportunities and support provided by the context in which the young person is inserted, covering both the family, academic and community context^[20–22,27,29–31].

In turn, each dimension of External and Internal Assets includes eight categories. Thus, External Assets encompass the experience of: Support (namely support in the family context, the experience of supportive relationships with other adults, a caring neighborhood, a caring academic environment, as well as parental involvement with the university); Empowerment (the experience of a community that values young people, the experience of youth as a resource and active participation in the community, experience of service to others and safety), Boundaries and Expectations (refers to the experience of both clear boundaries and family context, such as academic and community, as well as adults as a model of behavior, positive influence from peers, and high expectations, both from parents and teachers) and Constructive Use of Time (both with regard to participation in creative activities, such as in programs for young people, in a religious community, and constructive use of time spent at home). On the other hand, Internal Assets include the categories of: Commitment to Learning (which refers to motivation for learning, a commitment to the academic experience, investment in carrying out academic work, the experience of a positive relationship with the university, and satisfaction with reading); Positive Values (namely the experience of care, equality and social justice, integrity, honesty, responsibility, as well as control beliefs); Social Competences (namely planning and making decisions, interpersonal and cultural skills, resilience and importance of peaceful conflict resolution); and Positive Identity (refers to the experience of personal power, self-esteem, sense of purpose, and a positive vision of the personal future)^[20–22,29–31].

This model thus associates important personal and contextual characteristics, assuming that these are dynamically interconnected, showing that, in combination, they prevent health impairment and reinforce in many ways different health and well-being results (Thriving)^[20–27,29–35]. Framed within the Positive Youth Development perspective, which highlights an integrated approach to understanding development^[14–17,19], central to the assets model is the potential for ontogenetic plasticity that recognizes the existence of relationships of reciprocal interdependence between biological, individual and contextual levels of organization. This suggests that development regulation is characterized by mutually influential individual-context relationships between all levels. Thus, positive development comprises the articulation of the characteristics of individuals and their contexts, which according to the Developmental Assets model, constitutes the fusion, or experience of a total complement, of internal and external assets^[21].

In this context, the theoretical framework developed within the Positive Youth Development perspective explains how the developmental trajectories that emerge during the period of emerging adulthood depend on multiple influential and bidirectional person-context constraints^[16,17]. Emerging adulthood constitutes a stage of life characterized by changes in the personal context in the cognitive, emotional, physical, and social domains, just as the final trajectory reached by individuals during this stage is determined by the continuous, dynamic and reciprocal interactions between the individual and its context^[14]. In this sense, individuals during emerging adulthood act as co-authors of their own developmental trajectory, responding to different environmental contexts that influence and are also influenced by it^[16,17]. Overton^[19] explains how youth

development models are being associated with what the author defines as relational developmental systems metatheory, that currently conceptualize development studies. This metatheory derived from a process-relational paradigm and the concepts associated with it are being used to describe, explain and optimize the course of development and, as such, to frame the application of research aimed at promoting health and positive development across the transition to adulthood^[14-16]. Emphasis is currently placed on the fact that development involves mutually influential relationships between a person's characteristics, social relationships and influences from family, university and community contexts^[16]. All of these influences, although always present throughout life, change their meaning over different periods of life and over different historical periods^[15,19]. Therefore, characterizing the period of emerging adulthood as a stage in the life course has proven to be important in understanding development^[14], considering it as an opportunity for positive orientation in the trajectory of the life course.

Emerging adulthood thus represents an important area given the multiple actions through which a person's developmental trajectories and positive outcomes can be explored. Important developmental challenges occur throughout emerging adulthood, so successful development throughout this period will likely influence and be reflected in the developmental trajectory throughout adulthood, as these challenges are related to important adult outcomes such as experience of an independent life, the establishment of committed intimate relationships and professional fulfillment^[6,12,14]. Wood et al.^[14] highlight that the experience of a continued positive developmental trajectory throughout emerging adulthood is related to the degree to which there are correspondences or incompatibilities between the individual and their personal and contextual resources and environmental challenges. Emerging adulthood usually includes challenges such as entering higher education, frequent travel, changes in relationships, changes in worldview, changes in financial conditions, constituting a period of experiencing possibilities, changes, transformation and growth^[1,6,12,27,36].

During this period, the experience of the higher education context can imply challenges, which involve increasing demands^[27] that imply the mobilization of personal resources, both in terms of personal skills and abilities, as well as the context, namely family, academic and community. As Arnett^[12] explains, it is in this period characterized by individualization that people are increasingly compelled to depend on their own resources to build their trajectory. We add that it is during this period that the person is challenged to identify, mobilize, explore and develop their own personal and contextual resources that place them on a wealthy developmental trajectory.

The objective of this study is to describe and analyze the utilization of the Developmental Assets® model in the emerging adult population.

2. Materials and methods

In The Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) protocol was applied in the review process^[37,38].

2.1. Eligibility criteria

The objective of the present study is to describe and analyze the use of the Developmental Assets® model in the emerging adult population. Therefore, the following are considered (PICO): a) participants: Emerging adults; b) interventions: Application of the Developmental Assets model; c) comparison: Conceptualization and operationalization of the concept of Developmental Assets; d) results: Results in the development of the Developmental Assets experience^[37,38]. This review defined the characteristics of the studies to be used (e.g. PICO, study design, setting, publication dates) and publication characteristics (e.g., years considered, language, type of publication)^[37,38], so that the studies were selected according to the following inclusion criteria: studies

that explore the Developmental Assets model in the population of emerging adults – aged between 18 and 29 years, within the scope of Positive Youth Development perspective^[5-7,9,10]; no restrictions regarding the type of setting; publications in English, Portuguese, Spanish and French; publication dates between 1999 and 2023; publications with fulltext access. In turn, literature reviews, editorial comments and dissertations were excluded.

2.2. Sources of information and research strategy

The search was carried out in July 2023 in electronic databases, namely: Web of Science, Scopus, Science Direct, ERIC, PsyArticles, SciELO and B-on. In the Web of Science database (07/12/2023), the following procedure was followed: Use of the terms “developmental assets and emerging adulthood”, obtaining 27 results. In the Scopus database (07/12/2023), the following procedure was followed: 1) use of the terms “developmental assets and emerging adulthood” - TITLE-ABS-KEY (developmental AND assets AND emerging AND adulthood) - obtaining 15 results. In the Science Direct database (07/05/2023), the following procedure was followed: 1) use of the terms “developmental assets and emerging adulthood”, obtaining 1452 publications; 2) this research was refined using of the following filters: “Article type: Research articles”; “Subject areas: Psychology, Social Sciences”; “Years 1999-2023”; obtaining 587 results. In the ERIC database (07/05/2023): 1) use of the terms “developmental assets and emerging adulthood”, obtaining 2448 publications; 2) this search was refined using the following filters: “DESCRIPTOR-Young Adults”; obtaining 529 results. In the PsycArticles database (07/11/2023): 1) use of the terms “developmental assets and emerging adulthood” - “Any Field: developmental assets AND Any Field: emerging adulthood” - obtaining 4 publications. In the SciELO database (07/12/2023), the following procedure was followed: 1) use of the terms “developmental assets and emerging adulthood”, obtaining 0 results. In the B-on database (07/12/2023): 1) use of the terms “developmental assets and emerging adulthood”, obtaining 69908 publications; 2) this search was refined using the following filters: “Limiters: Peer Reviewed”; “Publication Date: 1999-2023”; “Full Text”; “Types of Sources: Academic Journals”; “Subject: Young Adults”, obtaining 321 results.

2.3. Selection process

The search was carried out in the electronic databases Web of Science, Scopus, Science Direct, ERIC, PsyArticles, SciELO and B-on, resulting in a total of 1483 publications. In the initial selection phase, the analysis of titles and abstracts identified in the search was considered (in some cases the full text was analyzed if the content was not perceptible through the summary alone), resulting in 1437 publications excluded because they did not meet the previously defined criteria. Additionally, 19 publications were excluded as they were found in duplicate. Of the remaining 27 publications, the full text was analyzed and the eligibility criteria were adopted, resulting in a total of 14 studies excluded for not meeting the inclusion criteria. Thirteen studies that met the eligibility criteria were considered and included in the review. Regarding this process, **Figure 1** presents the diagram in which the phases of the selection process are described^[37,38].

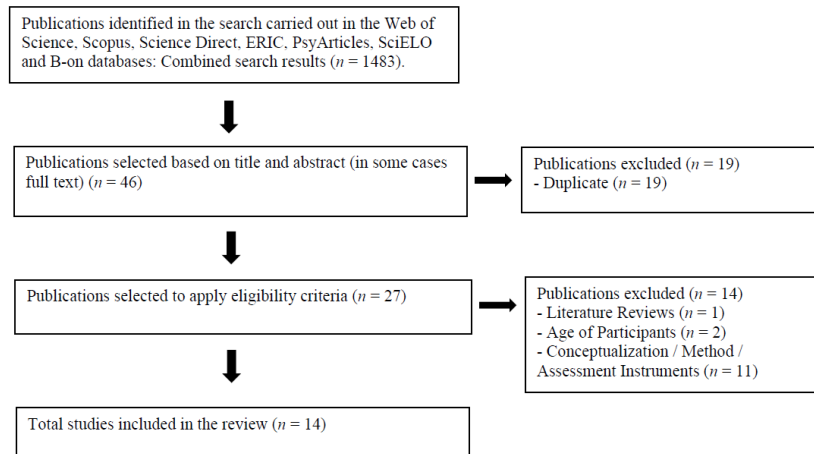


Figure 1. Study Selection Process—PRISMA diagram.

3. Results

This review included 13 published articles considered between the time period from 1999 to 2023. Results suggest that research focusing on the concept of Developmental Assets specifically applied to the population of emerging adults appears from 2011, presenting a greater expression from the year 2020. In general, both with regard to the conceptualization and operationalization of the concept of Developmental Assets in this population, diversity is observed in the methods adopted. The use of qualitative and quantitative methods is verified, with a predominance of quantitative methods (in a study, there is a combination of both). It is also worth highlighting the predominance of studies with a cross-sectional observational design and, to a lesser extent, studies with a longitudinal, prospective design. **Table 1** presents a description of the studies included in the review.

Table 1. Studies included: Synthesis identification of developmental assets, method, additional variables and results.

1) Author (s), publication date 2) Country of origin	1) Study design 2) Population	1) Developmental assets 2) Evaluation method	1) Additional variables 2) Evaluation method	Results
1) Abdul-Kadir and Rusyda ^[39] 2) Malaysia	1) Cross-sectional 2) 394 participants; ages of 18 and 26 years ($M = 21.5$)	1) Developmental assets–internal assets: support, empowerment, boundaries, and expectations and creative use of time; external assets: commitment to learning, positive identity, positive values, and social competencies 2) Search Institute’s Developmental Assets Profile (DAP)	1) Creativity; thriving; mental health 2) Two subscales of the Reisman diagnostic creativity assessment (RDCA); thriving indicators of Search Institute were used to measure thriving: Eight thriving indicators, developed by Scales et al. (2000); short form of the mental health continuum (MHCSF) for adolescents	Results revealed that all the variables were positively correlated to each other; the relationship between development assets, creativity, thriving, and mental health ranged from weak to moderate. Multiple regression (stepwise) analysis produced four models that indicated that positive identity, support, creativity, and thriving have a significant influence on mental health among emerging adults. Further, analyses using the PROCESS procedure demonstrated significant indirect effects of positive identity and support on mental health through its effects on creativity and thriving.
1) Anderson and Williams ^[40] 2) USA	1) Cross-sectional; Mixed-method study, examined both qualitative and quantitative aspects 2) 18 participants; ages 18–25 with foster care backgrounds	1) Developmental asset model search institute 2) Focus group; Developmental Asset Profile (DAP)	1) Success; Foster Family Characteristics 2) Qualitative evaluation	Results indicate that the definition of “success” is complex and subjectively defined based on personal goals and that specific Developmental Assets are important for foster families to promote youth resilience.
1) Bleck and DeBate ^[23] 2) USA	1) Longitudinal 2) 11.719 participants; Wave I (Grades 7–12), Wave III (age 18–26), Wave IV (age 24–32): National longitudinal study of adolescent to adult health	1) Based on the Developmental Assets Framework Search Institute, authors developed a continuous scale of internal and external developmental assets: External asset factors: Family support, parent involvement in school, caring neighborhood, family encouragement, and high expectations. Internal asset factors consisted of self-esteem, positive view of personal future, sense of purpose, interpersonal competence, and bonding to school. 2) 30 items from Wave I of the National Longitudinal Study of Adolescent to Adult	1) Health behavior outcomes including: Cigarette use, substance use, fast food consumption, and physical activity 2) Researchers developed a self-report survey including cigarette use, substance use, fast food consumption, and physical activity	The well-fitted path model revealed associations between developmental assets with each health behavior at Wave III. Developmental assets indirectly influenced each health behavior and direct associations were observed between assets with substance use and physical activity at Wave IV.

Health				
1) Cheney et al. ^[46] 2) USA	1) Prospective 2) 450 participants, ages 18–22 at wave 5	1) Youth Asset, Model Oman et al.: Family communication; Relationship with mother; Relationship with father; Parental monitoring, non-parental adult role models, Peer role models, educational aspirations for the future, General aspirations for the future, Responsible choices, General self-confidence 2) Youth Asset Survey	1) Tobacco use 2) Researchers developed a self-report survey including one question about tobacco use: “During the past 30 days, have you used any tobacco (smoked, dipped, or chewed)?”	Parental monitoring was significantly associated with wave 5 tobacco use in the youngest group of males. The non-parental adult role model and general self-confidence assets were significantly associated with wave 5 tobacco use in females. Family communication was significantly associated with wave 5 tobacco use for the oldest females, and positive peer role models only for females in 2-parent homes. Youth assets continue to positively influence health behavior decisions in emerging adulthood, but males and females also benefit from different assets.
1) Dost-Gözkán et al. ^[41] 2) Norway, Romania, Slovenia and Turkey	1) Cross-sectional 2) 2055 participants; age range = 18–28	1) Developmental assets: Three external assets (support, empowerment, boundaries and expectations) and one internal asset (positive identity) were used. External assets were considered as independent variables, and positive identity was framed as dependent variable. 2) Developmental Asset Profile (DAP)	-	Results indicate differences in the experience of external developmental assets and positive identity; however, external assets and positive identity are similarly and positively linked across the four countries. Results suggest that developmental assets are related to positive outcomes cross-nationally despite country-level differences in the experience of external assets.
1) Galinsky et al. ^[47] 2) USA	1) Longitudinal 2) <i>n</i> = 3237 participants, aged 18–26 years in heterosexual relationships of >3-month duration; representative population sample: National longitudinal study of adolescent to adult health	1) Autonomy, self-esteem, and empathy. 2) Autonomy and Empathy scales composed of four items obtained from the Bem Sex Role Inventory instrument; Self-esteem-four items similar to those reported in Rosenberg’s Self-Esteem Scale	1) Sexual pleasure 2) Researchers developed a self-report survey including one question regularity of orgasm. This measure asked, “When you and your partner have sexual relations, how often do you have an orgasm?”	Compared with young women, young men reported more regular orgasms and more enjoyment of two kinds of partnered sexual behavior. Sexual enjoyment was not associated with age, race/ethnicity, or socioeconomic status. Among women, autonomy, self-esteem, and empathy co-varied positively with all three sexual enjoyment measures. Among men, all associations were in the same direction, but not all were statistically significant.
1) Gomez-Baya et al. ^[24] 2) Spain	1) Cross-sectional 2) 1044 participants; age range 18–28	1) Developmental Assets developed by the Search Institute 2) Developmental Asset Profile (DAP)	1) Anxiety 2) Generalized Anxiety Disorder-7 (GAD-7)	Results showed more anxiety in the female subsample (at both the symptoms and clinical levels). A partial mediation model, based on regression analyses, indicated that gender differences in anxiety were partly explained by gender differences in developmental assets. Thus, higher anxiety in the women was partly due to lower scores in positive identity and higher scores in positive values. These results suggested the need to design programs to prevent anxiety with specific measures for women youth to nurture positive identity and promote strengths and coping skills that allow them to get the benefits of well-being derived from positive values, thus, preventing worry and stress overload, which may lead to anxiety.
1) Greene et al. ^[48]	1) Longitudinal	1) 11 Assets: Personal assets: Self-esteem,	1) Sexual behaviors	Results indicated that certain assets during early and mid-adolescence,

2) USA	2) 465 participants, American Indian youth, from National Longitudinal Study of Adolescent Health; Wave 1 (1994/1995, when youth were between 12 and 16 years of age) predicted sexual behavior at Wave 3 (2001/2002, when youth were between 18 and 23 years of age)	self-control, and deliberative decision making. Family assets: Love and support, Parent-youth communication, Parental expectations. School and peer assets: School connectedness, non-deviant friends, peer time. Community assets: Neighborhood and supportive adults. 2) Questions from National Longitudinal Study of Adolescent Health	2) Sexual behaviors were measured at Wave 3 with three variables: Early sexual debut, number of sexual partners, and condom use frequency	such as self-control, family support, and school attachment, were protective for various risky sexual behaviors in early adulthood. Furthermore, cumulative assets emerged as an important predictor of sexual behaviors.
1) Min et al. ^[42] 2) USA	1) Longitudinal 2) 358 participants (54% females), predominantly African American, assessed at age 15 and at age 21	1) Individual assets at age 15 2) 32-item Internal Assets subscale of Developmental Assets Profile (DAP)	1) Substance use at age 15 2) Biologic assays for drug metabolites separately for alcohol, tobacco, and marijuana and self-report. The Youth Risk Behavior Surveillance System (CDCP, 2009 ^[49]) 1) Indicators of adjustment in emerging adulthood at age 21 2) High school completion, substance use disorder, mental health symptoms, and a history of incarceration and probation.	Latent class analysis identified five classes: high assets with low substance use (C1, 10.2%); moderate assets with low substance use (C2, 28.7%); low assets with low substance use (C3, 32%); moderate assets with high substance use (C4, 9.4%); and low assets with high substance use (C5, 19.2%). Despite similar levels of assets, adolescents in C5 reported more life adversities (suboptimal caregiving environment, daily hassles, non-birth parents' care) than those in C3. C4 and C5 reported more substance use disorder at age 21 than the three low substance use classes; adolescents in C5 were less likely to complete high school than those in C2. More females in C5 reported greater mental health symptoms than those in C1 and C3 and criminal justice involvement than those in C1.
1) Pashak et al. ^[25] 2) USA	1) Cross-sectional 2) 308 participants age $M = 20.20$; $SD = 1.90$	1) Developmental assets based on Search Institute model: 12 internal assets and 12 external assets 2) Researchers developed a self-report survey based on a subset of the assets and outcome behaviors most applicable to emerging adults (200 self-report items, with several items used to create a composite for each)	1) Thriving behaviors, risk behaviors, and academic success 2) Researchers developed a self-report survey	Correlational analyses revealed significant relationships of moderate strength between the perceived level of developmental assets and thriving behaviors, risky behaviors, and academic success. Furthermore, a path analysis yielded significant coefficients wherein assets influenced thriving, risk, and collectively, academic success. Results suggest that the developmental assets framework applies to emerging adults and warrants further investigation.
1) Pashak et al. ^[26] 2) EUA	1) Cross-sectional 2) 451 college students, ages from 18 to 24, with a	1) Developmental Assets: 40 developmental assets model Search Institute for emerging adults	1) Thriving indicators (e.g., positive emotionality and spiritual wellbeing)	YADAS' reliability (via temporal consistency and internal consistency) and validity (via construct convergence and clinical criteria), and generally found evidence of strong psychometrics. The

	mean age of 19.44 years (<i>SD</i> = 1.40)	2) Young Adult Developmental Assets Survey (YADAS)	and risk indicators (e.g., substance abuse and anti-social behavior) 2) Young Adult Developmental Assets Survey (YADAS); Brief Symptom Inventory (BSI; Derogatis, 1975 ^[50]); The Satisfaction with Life Survey (SWLS; Diener et al. 1985 ^[51]).	YADAS' global assets score demonstrated strong psychometric qualities, and was statistically significantly correlated to the majority of the thriving indicators and risk indicators. The global assets score also displayed meaningful links to mental health, namely with life satisfaction and symptomatology. Results suggest support for the use of the developmental assets model with emerging adults in university contexts.
1) Pashak et al. ^[27] 2) USA	1) Cross-sectional 2) 526 emerging adult university students; between the ages of 18 and 29 years old	1) Developmental Assets Model Search Institute: 2 asset branch scores are calculated (internal and external), 8 asset category scores are calculated (4 are internal and 4 are external), and 40 individual asset scores are calculated (20 are internal and 20 are external). 2) College Assets Measurement Profile for Undergraduate Students (CAMPUS); 120 items (3 for each of the 40 assets)	1) Life satisfaction; mental health symptomatology 2) The Satisfaction With Life Survey—SWLS (Diener, Emmons, Larsen, & Griffin, 1985 ^[51]); The Langner Symptom Survey – LSS (Langner, 1962 ^[52])	Results indicated that questionnaire CAMPUS is reliable and valid for population of emerging adults.
1) Pashak et al. ^[28] 2) USA	1) Cross-sectional 2) 526 university-enrolled emerging adult students; age from 18 to 28 years old, with an average of <i>M</i> = 19.41 (<i>SD</i> = 1.55)	1) Developmental Assets: Search Institute 40 of the individual assets, all eight of the asset categories (support, empowerment, boundaries and expectations, constructive use of time, commitment to learning, positive values, social competencies, and positive identity), both of the two asset branches (external and internal), 2) CAMPUS—College Assets Measurement Profile for Undergraduate Students, developed by Pashak et al.	1) Trauma exposure and experience of post trauma symptoms 2) Trauma History Questionnaire (THQ; Green, 1996 ^[53]); PTSD Checklist-Specific	Posttraumatic symptom severity was positively correlated with the frequency of trauma exposure and negatively correlated with asset-richness, and that asset-richness statistically significantly moderated the link between trauma exposure and post trauma symptoms. The developmental assets framework appears to be an effective model of resilience for many emerging adults in college/university settings.

4. Discussion

4.1. Conceptualization and operationalization of the concept of Developmental Assets in the Emerging Adult population

Research that explores the concept of Developmental Assets in emerging adults is analyzed through this review, which indicates the predominance of the adoption of the Developmental Assets model developed by the Search Institute, with the operationalization of the concept that adopts assessment instruments developed based on the same model^[24–28,39–42]. Thus, the Development Assets model that emerged by the Search Institute, initially applied to the adolescent population^[43,44], has gained increasing relevance in the emerging adult population. Analysis of study results suggests the use of the Developmental Assets model appropriate to the population of emerging adults, establishing itself as an approach with the potential to inform health professionals to create actions that place this population on a wealthy development trajectory.

In line with the use of the original Developmental Assets model developed by the Search Institute, it is also observed that when operationalizing the concept, the majority of studies adopt the utilization of evaluation instruments developed by the aforementioned institute. Thus, it appears that in operationalizing the concept, the majority studies utilize, in line with the most widespread research by the Search Institute, the Developmental Assets Profile (DAP) questionnaire^[22]. In fact, this questionnaire is a useful instrument in exploring the concept of Developmental Assets, and although it does not include the evaluation of the experience of all 40 individual assets included in the model, it focuses the evaluation on the categories that reflect the essence of the assets. In this approach to the concept, it is also possible to verify the diversity of methods adopted in the studies under analysis. On the one hand, there are studies that entirely use the Developmental Assets Profile (DAP) questionnaire^[24,39], while other studies only use subscales of the same^[41,42]. The use of this questionnaire is also observed in a combination of quantitative and qualitative methods^[40]. In general, the results of these studies highlight the adequacy and usefulness of adopting this model for the population of emerging adults, and considering the diversity of approaches in using the DAP questionnaire, the results of the studies indicate its usefulness in this population.

The analysis of the studies also reveals the use and adaptation of the Developmental Assets model at the Health Science Center at the University of Oklahoma, which result in the instrument called Youth Asset Survey —YAS^[45], also explored here in the population of emerging adults^[46]. This longitudinal study, which initially focused on the adolescent population, continues the investigation and explores the applicability and usefulness of the model in the population of emerging adults. Also, in this line of research, the results indicate the adequacy and usefulness of this approach in emerging adults.

Another line of investigation identified in the analysis refers to the National Longitudinal Study of Adolescent to Adult Health, taking place in the USA, whose resulting studies adopted as a basis the concept of Developmental Assets developed by the Search Institute, and selected items from the questionnaire used in the aforementioned study that reflect the resources proposed by the Search Institute model^[23,47,48]. In this line of investigation, the authors use specific and diverse groups of assets proposed by the Search Institute, reflected in their evaluation, thus verifying the use of specific items according to the approach adopted in each study. The results of these longitudinal studies add to the importance of a assets approach in understanding the development of young people from the transition from adolescence to emerging adulthood, and how to intervene in emerging adulthood in specific areas of development.

A more recent line of research in this field of study is the research developed by Pashak et al.^[25], which has been consolidated in recent years^[26–28]. The authors focused the investigation on the applicability of the Developmental Assets model proposed by the Search Institute specifically to the population of emerging adults

in a university context. The investigation resulted in verifying the usefulness of the model in this population and in the development of an instrument for evaluating the 40 assets originally proposed, the College Assets Measurement Profile for Undergraduate Students—CAMPUS questionnaire^[27], which stands out particularly relevant.

4.2. Developmental assets experience in emerging adults

The analysis of the adequacy of the Developmental Assets model in emerging adults with different characteristics proves to be particularly important, observing that in the various studies the elements that constitute both internal and external assets tend to have a comparable validity between cultural, socioeconomic, gender and ethnic context. This highlights the adequacy, applicability and usefulness of the model for Emerging Adults in different cultural contexts. most studies were carried out in the USA^[23,25–28,40,42,46–48] where the model is also more widespread, however, this line of research is also being explored in Europe^[24,41] Asia^[39].

In fact, the results of the studies highlight this particularity of the model, showing that Developmental Assets lead to positive results in different nationalities, despite differences in the experience of external resources^[41]. It is also worth noting the sensitivity of the model to gender differences^[24,46,47], allowing the knowledge that different genders benefit from different assets. In the different approaches to the concept verified in the studies, the exploration of the model in emerging adults with particular characteristics is also highlighted, namely in emerging adults with foster care backgrounds^[40]. These results affirm the importance of the Developmental Assets approach in emerging adults considering different characteristics, which provides the opportunity to develop culturally relevant intervention strategies, sensitive to age, gender and particular needs, with a view to promoting development successful throughout this period of development.

4.3. Developmental assets experience and outcomes in emerging adults

In the Developmental Assets model, the central assumption is that the experience of assets is positively related to health and well-being results and inversely related to pathology or results of health-compromising behaviors^[21,29,30]. In fact, the analysis of study results tends to highlight the experience of Developmental Assets with a greater probability of revealing positive results, namely, better mental health^[24,26–28,39,42], better sexual health^[47], greater satisfaction with life^[26,27], greater Thriving experience^[25,26,39,40], creativity^[39] and academic success^[25,27,42]. Inversely, in fact, research tends to highlight the experience of Developmental Assets with a lower probability of involvement in behaviors that compromise health or pathology^[23,25,26,42,46,48].

In addition to this central assumption, the model also suggests that the greater the number of positive experiences the person reveals, that is, the more assets the person experiences, the greater the probability of demonstrating results of successful development^[21,30]. Thus, central to the basic theory of Developmental Assets is the assumption “the more assets, the better”^[29], or, also stated as “vertical pile up of assets”, suggesting the experience of assets as additive or cumulative. This principle expresses the fusion of individual and contextual level assets, that is, the assumption that optimal development in this period of development is thus related to the experience of a full complement of internal and external assets^[21,29]. The results of the studies under analysis tend to highlight this assumption^[25–28,42,48]. Thus, the results of the studies suggest that the experience of assets has considerable implications for several indicators of health and well-being of emerging adults.

5. Conclusion

The results of the study analysis highlight the relevance of applying the Developmental Assets model in emerging adults and emphasize the relevance of exploring it in future investigations. It is verified in the analysis of the studies that the experience of Developmental Assets in this population tends to have a

comparable validity between cultural and socioeconomic context, gender and ethnicity. The results indicate that the model is sensitive, allowing the identification of relevant assets in the population of emerging adults, while simultaneously highlighting the importance of the experience of specific assets in emerging adults considering particular characteristics. The model thus provides knowledge for the development of actions and interventions that place emerging adults on an optimal developmental trajectory, and that these are culturally relevant, appropriate to gender and age, sensitive to their particular needs and characteristics.

In this sense, there is a relationship between the experience of assets included in the model and positive results in health and well-being, suggesting that emerging adults benefit from the experiences, types of support and personal characteristics that comprise the model. Thus, it is observed in different investigations that the experience of personal and contextual assets is positively associated with positive results throughout development in this period, and inversely related to behaviors compromising health or pathology. It is also suggested, in the analysis of the studies, that specific assets predict particular results, concurrently and longitudinally, and their contribution depends on the result particularly in focus. These results indicate the need for future research focusing on understanding sources and actions of assets development, the interaction between assets, the role of assets as mediators or moderators of health behaviors and outcomes. It also suggests the need for research focusing on exploring the relationship between the experience of assets and positive developmental outcomes throughout emerging adulthood, as well as the effectiveness of intervention programs in promoting the experience of assets.

The data also indicate that, in addition to the relevance of exploring the conceptualization of this model in the emerging adult population, the relevance of developing assessment instruments that allow the concept to be operationalized. Research in this area shows significant advances, noting the existence of research focusing on the development of assessment instruments designed for the specificity of this population^[25–28], however, a limitation observed refers to the fact that it specifically focuses on the population in an academic context, which is why it would be important to develop more comprehensive instruments. The development of assessment instruments is an important factor with a view to exploring the model in different cultural and socioeconomic contexts. The importance of developing research in this field of study is highlighted, which allows focusing on the idiosyncrasies of the emerging adult population, revealing an opportunity for the development of strategies to promote health and well-being sensitive to the particular needs and characteristics of this population.

Thus, the Positive Youth Development perspective stands out in this context as an important approach focusing on the development and expression of assets in young people^[14,16,17], highlighting that all young people have strengths, and that these can in fact be capitalized on to promote successful development throughout emerging adulthood. Central to this perspective is attention to the relationships between the individual and the context that are associated with positive developmental trajectories throughout this period of development^[14–19], suggesting that individuals during emerging adulthood act as co-authors of their own developmental trajectory^[16,17,19]. Arnett^[12] highlights that it is in this period characterized by individualization that emerging adults are increasingly challenged to depend on their own resources to build their trajectory. In this sense, it is of greater importance that research focuses precisely on identifying fundamental resources in this period of development. Crucial research is suggested that provides health professionals with information for the development of actions and interventions that explore and mobilize the development of assets at both individual and contextual levels that promote a positive orientation in the life course trajectory.

The Developmental Assets model thus contemplates a holistic conception in understanding healthy development, considering different areas of development such as psychological, physical, spiritual, including different contexts such as family, academic and community. The experience of assets included in the model

favors diverse developmental outcomes, from preventing compromised health outcomes or pathology, to promoting health and well-being outcomes. The applicability of the model to the population of emerging adults is suggested as a strategy focusing on a positive developmental trajectory.

Author Contributions

All authors, Ana Sofia Soares, José Luis Pais Ribeiro and Isabel Silva contributed equally to the realization of this article, namely, conceptualization, methodology, formal analysis, writing (original draft preparation, review and editing).

Conflict of interest

The authors declare no conflict of interest.

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