Resilience and Thriving in Salvadoran Youth: The Role of Internal and External Assets

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Abstract

Using dynamic, relational developmental systems-based ideas about mutually-influential individual⇔context relations, an integrated model of a resilience and thriving system is presented to understand if and how internal and external developmental assets may be associated with states of resilience and/or thriving. This research involved 1,205 Salvadoran youth between the ages of 9 and 18 (49.8% female, M_{age} = 13, SD_{age} = 1.9), 51% of whom were involved in CI-supported programs in El Salvador. Three confirmatory factor analyses tested the latent factors of internal assets (involving scores for intentional self-regulation and hopeful future expectations), external assets (involving scores for locus of hope and feeling known and loved), and scores for resilience-thriving (formed by use of a resilience-thriving model). The results of structural regression analyses revealed that both internal and external developmental assets interacted in predicting resilience-thriving. These results provides an initial basis for understanding the dynamics of functioning within an resilience-thriving model.

Keywords: multisystem resilience, positive youth development, thriving, CI Study of PYD, El Salvador

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Table of Contents

List of Tables

List of Figures

Resilience and Thriving in Salvadoran Youth: The Role of Internal and External Assets

All theories of human development attempt to account for how the changes individuals undergo across their life span enable them to successfully meet the challenges they encounter in their lives and remain adaptive. Despite differences in how people define development, all developmental theorists agree that adaptation to the demands of the environment, whether immediate or long-term, is important for survival and reproduction and also for thriving. All people also agree that not all people are equally equipped for such adaptive functioning (Lerner, 2018).

Resilience science is an area of developmental scholarship that tries to articulate the processes through which individuals can successfully meet the challenges to their survival and health, at least sufficiently to allow them to continue to live. Masten calls this instance of adaptation adequate or "okay" functioning (Masten, 2014b). Other theorists, while recognizing that resilience is important, go on to understand how "okay" functioning can be transcended to reflect optimal functioning or thriving for youth, even in the absence of adversity. Therefore, thriving reflects a state of flourishing in which individuals demonstrate positive development, often referred to as positive youth development (PYD) (e.g., Lerner et al., 2019). This distinction underscores thriving as an aspirational goal that transcends the survival-focused nature of resilience, making it a broader and more desirable developmental outcome. Where scholars differ is in how they understand the processes of resilience or thriving and also whether they see them as similar or distinct processes (Lerner et al., 2023).

I argue in this thesis that the risk/adversity continuum proposed by Lerner and colleagues (2019, 2023) could be expanded to include both resilience and thriving so that adaption occurs within a multicomponent system, which I term the *resilience-thriving system*. Furthermore, I

propose a resilience-thriving model, inspired by the Five Cs of PYD model (Lerner et al., 2015) and Benson's (2007) model of developmental assets, which can be used to assess if and how youth characteristics and contexts place them in different states in the resilience-thriving system. The hope for the resilience-thriving system model is to further illustrate the idea that development is embedded in culture, time, and place. Therefore, this thesis: 1. discusses the connection between resilience and thriving which is involved in the proposed resilience-thriving system, 2. details the relational developmental systems (RDS) metatheory from which both concepts derive, 3. describes past and present literature on resilience, highlighting the usefulness of a multisystem approach, 4. notes considerations for cultural and global influences, 5. presents the resilience-thriving system model and 6. discusses how the resilience-thriving system model was tested through the research reported in this thesis.

Connecting Resilience and Thriving

In contemporary developmental science, RDS ideas have emerged to integrate both resilience science and the science of PYD or thriving (Lerner et al., 2023; Masten, 2014b). As Masten (2014b) has explained, both resilience science and PYD or thriving research within the adolescent developmental period, use a strengths-based conception that focuses on positive aspects of development to improve the well-being of diverse youth. In addition, both resilience and PYD studies have concentrated on identifying and understanding the assets present within youth and their environments that contribute to adaptive functioning (Lerner et al., 2023; Masten et al., 2023). Notably, the developmental assets often highlighted in PYD research (e.g., internal and external assets, as in Benson, 2007) closely resemble the "short list" of promotive and protective factors (e.g., intentional self-regulation skills, supportive relationships, hope) observed in resilience studies involving youth (Masten, 2013, 2014c). This resemblance underscores the

parallel focus on identifying key individual and contextual factors that contribute to positive outcomes in both fields (Masten, 2014b); there is also a resemblance in the use of the idea that a good fit between individual assets and contextual resources can lead to resilience and thriving, even in the face of diverse challenges (Lerner et al., 2023). One noteworthy instance of adversity cited frequently within both the resilience and thriving literature is poverty (e.g., Garmezy, 1985; Lerner et al., 2021b; Masten, 2011).

Whereas these two concepts share commonalities, their distinct conceptualizations shape how they are studied in developmental research. For example, resilience is conceptualized as the capacity to adapt and maintain adequate functioning in the face of significant threats and is typically studied in the context of poverty, trauma, or systemic inequalities. These studies focus on populations facing high levels of risk to understand the protective factors that enable them to navigate such challenges and adapt (Masten, 2014b). Thriving, by contrast, represents a more optimal developmental outcome that is studied in both challenging and supportive environments, making it applicable to a broader range of youth and youth-context relations (Lerner et al., 2023). This distinction highlights the need for research that integrates both concepts to better capture the complexity of human development.

Masten (2014b) indicated that the primary distinction between resilience science and PYD or thriving perspective lies in their respective foci. Specifically, resilience science refers to a subset of individual ⇔ context relations located at the higher end of the risk/adversity continuum, and placement along this continuum at any point in time is multiply determined by individual and contextual factors (see Figure 1 in Lerner et al., 2019, 2023). In other words, resilience does not reside within the individual or the environment but rather emerges from their connection and relation to each other.

Furthermore, resilience can be seen as a specific manifestation within the broader framework of adaptive RDS-based processes that encompasses human development and thriving (Masten, 2014b). Research and interventions have been implemented for the last half century with the idea that people, in coaction with events they experience, may go from manifesting neither resilience nor thriving to demonstrating resilience or thriving (Masten et al., 2023; Werner & Smith, 1992). As such, I argue that the risk/adversity continuum, as proposed by Lerner and colleagues (2019, 2023), and earlier by Masten (2014a, 2014b, 2014c), could be revised to reflect three states that exist within the system of dynamic relations within the resilience-thriving system. Figure 1 of the present thesis presents a model of such a system.[1]

As illustrated in the Venn diagram presented in Figure 1, placement in the resilience-thriving system reflects states of either demonstrating neither resilience nor thriving, demonstrating resilience, or demonstrating thriving, with the overlapping areas representing the intersections among the state space (Hollenstein, 2007). Across time, any sequence of states or changes in the sequence of changes may be possible and identified as linear or curvilinear by capitalizing on progress made within developmental science in indexing change and changes in the rate of change through the use of ordinary differential equations (Mongin et al., 2022). Therefore, I propose that there is a threshold or a tipping point that exists between being (a) in a state space that reflects functioning at a level that is just "okay" behavior versus (b) functioning at a level of demonstrating thriving. Furthermore, I believe that the threshold or tipping point,

[1] The main challenge in empirically testing this model lies in creating a set of scores that provide valid differentiations among the three states represented by the circles in the Venn Diagram. There are neither theoretical publications identifying specific markers for the transition points between these states nor existing empirical norms derived from studies of comparable Salvadoran youth. Consequently, the present research serves as only a preliminary test of the state model presented in Figure 1.

and in turn placement in this system at any point in time, is multiply determined by individual and contextual factors.

How might this within-person change happen? Again, I draw on ideas from RDS-based ideas. These ideas lead to the notion that resilience, as well as thriving, is a multi-dimensional process that must be understood dynamically, that is through mutually-influential individual-context coactions (that can be represented as individual ⇔ context coactions). To explain the connection between this view of resilience and thriving it is useful to briefly discuss key ideas in RDS metatheory and the paradigm from which it comes.

RDS Metatheory and the Process-Relational Paradigm

RDS metatheory provides the overarching framework for a broad range of modern theories of human development (Lerner, 2018; Overton, 2015; Witherington & McCready, 2024). RDS metatheory is derived from a process-relational paradigm, wherein the organism is viewed as inherently active, autopoietic, self-organizing, agentic, complex, and adaptive (Overton, 2015). Fundamentally, the conceptual focus in RDS metatheory is placed on the mutually influential relationship between individuals and contexts, that is, the above noted dynamic individual ⇔ context coactions. These contexts include, but are not limited to, families, schools, and communities, which can play a significant role in shaping the lives and growth of youth. These individual ⇔ context coactions vary across time and place (Elder et al., 1993; Lerner & Overton, 2008; Overton, 2015).

The concept of temporality, often referred to as the "arrow of time," encompasses the historical dimension, which is the broadest level of influence within the ecology of human development. History permeates all other levels and brings about changes, which can be either stochastic, resulting from non-normative life- or historical-events, or systematic, manifested as

historical or age-graded changes (Baltes et al., 2006). The potential for systematic change implies the presence of relative plasticity throughout the life span. In other words, individuals have the capacity to adapt and exhibit malleability in response to varying circumstances and developmental processes.

It is important to note that such plasticity represents a fundamental strength of human behavior and development. It highlights the ability of individuals to navigate and respond to changing environments and experiences, contributing to their growth and development (Lerner, 2012, 2018). To capitalize on these changes and to bring about positive change, theories rooted in RDS metatheory, such as dynamic systems models (e.g., Cantor et al., 2021; Mascolo & Fischer, 2015), direct attention to the governing processes or "rules" that dictate the coactions between individuals and their environments, and how they influence development (i.e., its pace, direction, and outcomes). These coactions, also referred to as developmental regulations (Brandtstädter, 1998), are the focus of these theories. When developmental regulations involve mutually beneficial relationships between individuals and their contexts, they are considered adaptive (Brandtstädter, 2006).

Within the framework of RDS metatheory, various levels of human development are integrated, such as biology/physiology, individual socioemotional and cognitive functioning, social relationships, communities, culture, physical ecology, and historical factors. RDS metatheory emphasizes the integration of multiple dimensions and levels of analysis, such as the mutual influence and dynamic interplay between individuals and the environments with which they coact. This integration means that variables from different levels are interconnected, with the structure and function of one system being influenced by others.

As noted above, plasticity, within the context of RDS metatheory, is always a relative phenomenon. Therefore, the sequence of events in an individual's or group's life can either restrict or enable change. Moreover, a system that fosters change can also hinder it (Overton, 2015). Therefore, an RDS-based approach underscores the importance of finding or creating a good fit between the individuals and the context.

Although an RDS-based approach may be particularly important for all individuals, it is possible that using this approach is especially critical for adolescents due to the significant changes and challenges individuals experience during this developmental period (Lerner et al., 2018). Specifically, during adolescence, four distinctive developmental changes occur: 1. rapid brain development and a peak in neural plasticity, which supports more advanced abstract thinking, 2. the onset of puberty, bringing with it a wide range of physical, cognitive, and biological adjustments, 3. enacting different and more mature roles in their sociocultural context, and 4. the process of identity formation, wherein adolescents actively explore and begin to solidify their sense of self, including personal values, beliefs, and social roles (Steinberg, 2022). As already noted, RDS is the dominant metatheory guiding contemporary researchers and practitioners conducting resilience science (Masten et al., 2023) and thriving research (Lerner et al., 2015, 2023) with adolescent youth in the U.S. and worldwide. Accordingly, it is useful to understand the past and present literature on resilience and the usefulness of taking a multisystem approach.

Multisystem Resilience

Since the conception of resilience science that emerged in the 1970s (Masten & Reed, 2002), the field has moved beyond understanding resilience through the lens of deficit-oriented genetic reductionistic models (e.g., see Belsky, 2014; Belsky et al., 2007; Ellis & Boyce, 2011)

to current scholarship embracing the idea of resilience being a dynamic facet of human development (Masten, 2021; Masten et al., 2023). Genetic reductionistic models are essentialist due to their primary emphasis on genes as a context-independent blueprint for development (e.g., Plomin, 2018), a view that ignores the role of context, oversimplifies the complex processes of human development, and largely precludes the possibility of interventions altering problematic behavior or development, shortcomings that have been discussed by Gottlieb et al. (2006), Moore (2015), Lerner and Overton (2017), Moore et al., (in press); Overton (2015), and Witherington and Lickliter (2016, 2017). As a consequence of this criticism, there has been a shift away from a unidimensional reductionist and essentialist approach (e.g., genetic reductionism) to a multidimensional, systems-oriented approach reflecting a broader transformation in theory-predicated research within developmental science (Masten, 2014a).

For instance, Masten defines resilience as "the capacity of a dynamic system to adapt successively to disturbances that threaten system function, viability, or development" (Masten, 2014a, p. 6). Furthermore, Masten and her colleagues (e.g., Southwick et al., 2014) emphasize the presence and integration of multiple levels of organization within dynamic developmental systems. These levels constitute a multilevel, or multisystem dynamic, that is, a mutually influential, integration that includes genetic, epigenetic, developmental, demographic, economic, social, and cultural influences on an individual or, better, on the individual-context coactive relation. This integration allows resilience-enhancing programs to intervene at various levels of the integrated, dynamic system; such as the individual, family, community, and culture (Lerner et al., 2019).

In response to past reductionist trends in resilience science, there has been a call to action announced by many prominent resilience researchers (e.g., Masten et al., 2021; Ungar, 2021),

who stress that it is imperative that future resilience science employ multisystemic models of resilience. Multisystem resilience reflects the growing attention to concepts that are associated with RDS metatheory. By acknowledging that individuals do not develop in relation to processes associated with only one or one prime level of organization within the ecology of human development, resilience researchers demonstrate that analysis of a single component of the developmental system (e.g., genetics) is unable to account for the complexity of the processes that youth use to survive and thrive under stress. Moreover, to better understand how the resilience of coactive, multilevel systems are mutually dependent and integrated holistically in human development, a multidimensional approach is needed (Masten, 2021).

This contemporary conceptualization of resilience, which has become referred to as multisystem resilience (Masten et al., 2021; Ungar, 2021), allows researchers to investigate the dynamic, mutually influential relationship between individuals and contexts (i.e., individual ⇔ context coactions) across time and place (Masten, 2021). Given the unidimensional approach used in previous research, most published studies focused on resilience have remained siloed within a single system (e.g., solely the individual or family or community or, even more reductionistic, to one process within the person, family, or community), although remarkable parallels in resilience factors at the level of individuals, families, and communities have been widely reported in the extant research literature (Gartland et al., 2017; Masten & Motti-Stefanidi, 2020; Meng et al., 2018). The existence of these parallels suggests that the adaptive abilities linked to resilience in these interconnected systems reflect the interdependent networks and processes that have evolved and that function integratively (Masten & Motti-Stefanidi, 2020). Taking into account individual and contextual factors within multiple systems should lead to a

more comprehensive, integrated, holistic view of youth and their development (Cantor et al., 2021).

Considering Cultural and Global Influences

The shift to a multidimensional, systems-oriented approach to resilience has also sparked a growth in recognizing the significance of cultural and global perspectives, knowledge, and research on resilience. Accordingly, one facet of this growth that has, at this writing, occurred over the last decade is that resilience theory and research have begun to address the significant gap in the literature regarding global cultural processes and contexts. For instance, the scholarship of Masten (2014a), Masten et al. (2015), Panter-Brick and Leckman (2013), Ungar (2012), and Ungar et al. (2013) have played a crucial role in shedding light on this aspect of resilience. Simultaneously, research on resilience among youth has significantly expanded to encompass the challenges they face in the context of structural racism, discrimination, minoritization, and marginalization based on their cultural or ethnic/racial heritage, including native youth exposed to discrimination in their home country and young refugees fleeing from conflict zones (Cabrera & Leyendecker, 2017; Horn et al., 2016; Marks et al., 2020; Masten et al., 2015, 2019). These studies illuminate both unique and common resilience factors that arise from these complex adverse life experiences (ACEs).

This significant transformation is also noticeable in global humanitarian endeavors aimed at fostering positive development and well-being in youth and families facing extreme poverty, violence, or marginalization (Ager, 2013; Leckman et al., 2014; Lundberg & Wuermli, 2012). The growing concern about threats to youth development around the world, especially among youth from low-and-middle-income countries (LMICs), demonstrates the need to prioritize and address the challenges faced by these youth. Although research on cultural processes has

witnessed growth, it is crucial to conduct further studies to identify distinctive factors that foster resilience and thriving within specific sociocultural contexts.

Such research would contribute to a more comprehensive understanding of how various cultural factors within the multiprocess, dynamic developmental system coact to shape resilience and thriving. Ultimately, focusing on this coaction enables the development of targeted interventions and strategies tailored to youth in specific sociocultural settings (Lerner et al., 2021a; Masten et al., 2021).

As I have noted, multisystem resilience means that the capacity of youth to adapt to challenges involves multiple systems, and using such a framework for research should lead to a more comprehensive, integrated, holistic view of the person and their development. Therefore, multisystem resilience takes into account the individual ⇔ context coactions between different systems and provides targets of application that provide multidimensional targets of interventions for promoting resilience (Masten et al., 2023). Although this concept may be particularly important for all youth, it is possible that using this approach is especially important for youth who are multidimensionally challenged because of marginalization due to poverty, racism, or the combination of the two. Simply put, multisystem challenges necessitate integrated knowledge and multisystem solutions (Masten, 2021).

The Resilience-Thriving System Model

Following Box's (1976) maxim that all models are wrong, but some are useful, I hope that the resilience-thriving system model (see Figure 2) framing the research will usefully aid in assessing if and how developmental assets (i.e., internal and external assets) and the impacts of poverty may place youth in different states in the resilience-thriving system. The benefit of conceptualizing resilience and thriving within a model of the resilience-thriving system, as

opposed to viewing these constructs separately or in isolation, is that it provides a more dynamic and holistic view of youth and their development (Cantor et al., 2021). The resilience-thriving system model may also be useful because it describes how the state a youth is in at any given time could change depending on individual and contextual factors. When individual and contextual factors (e.g., internal and external assets) put the individual in, or close to, thriving the literature notes several variables that will mark the successful transition to, or presence in, a state of thriving. These variables include, but are not limited to, hopeful future expectations, intentional self-regulation, developmentally-nurturant relationships, and locus of hope (Benson, 2007; Lerner et al., 2023; Masten et al., 2023).

For instance, Callina et al. (2015) illustrated how findings from the 4-H Study of PYD provided evidence for the collaborative effect of positive future expectations and intentional self-regulation in fostering youth thriving. Furthermore, when youth possess strong intentional self-regulation abilities and are surrounded by developmental assets within their families, schools, and communities, they are more likely to exhibit high levels of competence, confidence, character, connection, and caring (i.e., the Five Cs of PYD) (Gestsdóttir et al., 2009; Gestsdóttir et al., 2010; Gestsdóttir & Lerner, 2007; Urban et al., 2010). Lacking intentional self-regulation skills, youth may encounter challenges in setting and managing their goals, potentially leading to vague or unattainable objectives or feeling overwhelmed by setbacks. Moreover, youth without intentional self-regulation skills might face difficulties in seeking assistance and staying motivated to achieve their aspirations. Thus, intentional self-regulation skills may play a crucial role in realizing hopeful future expectations in youth.

In addition, research suggests that supportive relationships and environments play a crucial role in nurturing hope, as they provide essential resources for its cultivation (Callina et

al., 2017; Stoddard et al., 2011). These factors can also shape how youth perceive and engage with hope (Bernardo, 2010; Snow, 2018). As an example, Munoz et al. (2019) found that relationships with parents and other family members can act as external agents promoting the locus of hope in the social context of youth. Indeed, parents and other family members are often the main sources of nurturing relationships (or developmental assets; Benson, 2008) in the lives of youth (Theokas & Lerner, 2006); however, a second source of this asset, both domestically and globally, emerges from youth development programs and, particularly, youth programs whose underlying theory of change emphasizes the coacting character of youth-adult relationships (e.g., Hershberg et al., 2015; Tirrell et al., 2022). Supportive and caring youth-practitioner relationships cultivated in youth programs may be particularly significant in LMICs, where youth may face marginalization due to poverty, safety concerns, and violence, phenomena that can impede thriving (see YouthPower Learning, 2017). In short, many developmental assets, such as intentional self-regulation, hope, and supportive relationships, among others, are reported as important indicators in the developmental dynamic between resilience and thriving.

In turn, in regard to context, poverty has been consistently highlighted as a primary threat to resilience and thriving for decades[2] (e.g., Garmezy, 1985; Lerner et al., 2021b; Masten, 2011) and is ubiquitous for youth from LMICs (Gómez et al., 2023). Therefore, I believe that it is essential to include both developmental assets and poverty within the model to understand how they are associated with resilience and thriving. Nevertheless, I recognize that developmental assets and scores on a measure of poverty could change depending on the research question,

[2] In the resilience literature, the term "threat" is often used to describe the negative influence of poverty; however, this terminology might not align with strengths-based frameworks that prefer terms such as "trigger" or "challenge" to emphasize potential opportunities for growth. This distinction highlights the differing semantics within each field and underscores the importance of word choice when framing research on resilience and thriving.

study design, and cultural context within which they are being applied. To accommodate such variation a model must allow for flexibility in designing these features of research.

Beyond understanding the specific concepts within the resilience-thriving system model, it is important to understand the relationship among them. As shown in Figure 2, there are bidirectional arrows between internal and external assets as well as between internal assets and poverty. These bidirectional arrows represent the mutually influential relationship between individuals and contexts that may lead to resilience and thriving. In other words, the resilience-thriving system model is an RDS-based model that illustrates that resilience as well as thriving is a multi-dimensional process that must be understood dynamically.

Furthermore, the resilience-thriving system model has a dotted line with a question mark between the external assets and poverty. The rationale behind this notation is that I would expect there to be some relation, albeit an imperfect one, between them, based on both the developmental science and the epigenetic literatures reporting that there are differences between perceptions of the environment and the actual features of the environment (Slavich & Cole, 2013; Spencer, 2006, 2024; Spencer et al., 2015). Nevertheless, it remains challenging to precisely determine the nature of the relationship. This determination is particularly difficult due to the variety of complex cultural and contextual factors that can create multidimensional challenges for youth. Thus, more research is needed to understand the relationship between external assets and poverty.

Moreover, as shown by the arrow within the model that points towards the resilience-thriving system, internal assets, external assets, and poverty predict placement in the resilience-thriving system. As noted earlier, placement in this system at any point in time may vary, given the several variables that coact in determining the specifics of individual ⇔ contextual factors.

Last, the feedback loop (i.e., the arrow that goes from the resilience-thriving system back to the predictors) and the arrow of time represent that this process is continuous and can change across life.

Depending on the specific research question and how it is applied, the resilience-thriving system model has the potential to be a model for nomothetic (i.e., commonalities among all people), differential (i.e., differences between groups), and idiographic (i.e., variation within individuals) research. For example, if the research question was addressing where a population of youth stood in regard to the resilience-thriving system, then this model could be useful to describe the nomothetic features of the population (e.g., through variable-focused research that identified population parameters). Moreover, if the research question was pertinent to the differences between groups (e.g., gender or age groups) and how such variation may relate to placement in the resilience-thriving system, then differential analysis could be explored through this model (e.g., through latent class analysis).

Furthermore, if the research question focused on understanding what state a child having ACEs (e.g., hunger, poverty, community violence) would be placed in the resilience-thriving system and what sort of changes in this system would be seen within the child meeting or not meeting those challenges, then an idiographic approach could be used in this model (e.g., $N = 1$ time series analyses or analysis of Level 1 fluctuations in dynamic structural equation modeling; McNeish & Hamaker, 2020).

I hope that the resilience-thriving system model will be used to explore all three types of research and, ultimately, lead to a more comprehensive understanding of how individual and contextual variables coact dynamically to shape resilience and thriving in youth. To this point, whether the focus is on where the population stands normatively in terms of the system, where

subpopulations (i.e., differential groups) stand at a particular point in time or place, or where youth stand as they move through normative and nonnormative challenges of childhood and adolescence, all provide different and important information. Depending on the program and policies in place, all three approaches could be beneficial to optimize development in youth.

Needless to say, to understand if the resilience-thriving system model is useful requires it to be tested. In recognition of the limitations discussed in Footnote 1 (Page 6), this research is intended to serve as a starting point for such testing.

The Present Study

The present study capitalized on an available data set derived from the Compassion International Study of Positive Youth Development (CI Study of PYD) which is a longitudinal, multi-nation research project using the Lerner and Lerner (e.g., Lerner et al., 2015) model to study PYD among marginalized youth enrolled in Compassion International's youth programs. The CI Study of PYD (e.g., Lerner et al., 2021; Tirrell et al., 2019; Tirrell et al., 2022) is a collaborative effort between researchers and practitioners that aims to gather developmental data about youth thriving in three of the 25 LMICs wherein CI implements its programs (i.e., in El Salvador, Rwanda, Uganda). From the larger CI Study of PYD, I used the El Salvador data set to investigate the extent to which internal and external assets were differently associated with resilience and thriving within a sample of impoverished youth from this majority world country.

CI is a faith-based child-sponsorship organization dedicated to reducing child poverty and fostering holistic and comprehensive youth development to promote thriving. CI serves over 2.2 million children living in poverty across LMICs. CI works by partnering with local churches to provide youth with opportunities to enhance their social, economic, and health/well-being across adolescence and into adulthood (Tirrell et al., 2019).

CI El Salvador began in 1977 and has served over 70,000 Salvadoran children. Youth meet at local churches where they are supported by volunteer mentors who focus on the holistic, specific needs and concerns of each child. Youth receive educational assistance to keep them engaged in school, relevant vocational training to provide opportunities to generate income (e.g., tailoring, baking, fish farming), and extracurricular activities (e.g., sports, drama, and debate). By matching youth strengths with available contextual resources, these programs build on their strengths and regard young people as assets and talents to be developed rather than risks and issues to be controlled (see Lerner et al., 2015; Roth & Brooks-Gunn, 2003; World Bank, 2007; YouthPower Learning, 2017). A preliminary study conducted by Tirrell and colleagues (2019) indicated that the youth development programs of CI provide a context that may serve to promote the thriving of Salvadoran youth living in poverty.

In regard to the context of El Salvador, the smallest Central American nation, grapples with a complex socio-economic landscape marked by persistent poverty and inequality. The country's history, scarred by a brutal civil war from 1980 to 1992, has left enduring socio-economic scars that continue to shape its context today (World Bank, 2020). In 2015, El Salvador ranked as the country with the highest homicide rate globally and was also noted for having one of the highest homicide rates among adolescents worldwide (Centeno, 2017). Between 2016 and 2021 homicides diminished, but violence is still pervasive with six in 10 victims being boys and young men (aged 13–35 years), and sexual violence disproportionally affects girls and young women (UNICEF, 2021).

Poverty in El Salvador remains a pervasive issue with 24.6% of the households living below the poverty line and 7.8% of the households living below the extreme poverty line in 2021 (World Bank, 2023). The incidence of multidimensional poverty in El Salvador is 27.2%,

affecting 508,335 households or 1,933,742 people. Insufficient delivery of water, sanitation, and hygiene services has exacerbated social disparities and injustices. In urban regions, piped water and sanitation are accessible to over 90% of households, whereas in rural areas, access drops to only 77%. Within impoverished households with children, 7% (24,351) lack sanitation facilities, and 13.4% (46,090) lack access to piped water (UNICEF, 2021). The rural sector, where a significant portion of the population resides, faces particular challenges, including limited access to essential services such as education, healthcare, and clean water which only perpetuates cycles of poverty and inequality (Bissonette, 2019).

In sum, the research assessed the usefulness of the resilience-thriving system model to investigate resilience and thriving in the study of marginalized, impoverished Salvadoran youth. The primary research question that guided this study was whether composite scores measuring internal assets, external assets, and the index of resilience-thriving interrelated in the manner depicted in Figure 2? That is, are internal and external assets differentially associated with resilience-thriving scores in this sample of impoverished Salvadoran youth? I hypothesized that the composite scores measuring internal assets, external assets, and resilience-thriving would demonstrate a good-fitting three-factor structure and higher scores for the internal and external assets would predict higher resilience-thriving scores. Furthermore, I hypothesized that the association of internal assets on resilience-thriving scores would vary depending on the level of external assets, and correspondingly, external assets would be moderated by internal assets.

Method

The goal of this research was to illuminate the theoretical usefulness of the resilience-thriving system (Figure 1) to study resilience and thriving and understand if internal and external assets were differentially associated with resilience-thriving scores (Figure 2) in this sample of

impoverished Salvadoran youth. Although, because of the admitted preliminary nature of this research, the scores for resilience-thriving may not be able to be definitively differentiated into the three states depicted in Figure 1, the present research can still contribute to future studies that aim to develop valid indicators for these states.

Participants

As noted above, a data set from the CI Study of PYD was used, involving one time of testing in El Salvador. This research involved 1,205 Salvadoran youth between the ages of 9 and 18 (*M* = 13 years old; *SD* = 1.9; 49.8% female), 51% of whom were involved in CI-supported programs in El Salvador. The majority of youth lived in urban contexts (66%), whereas a minority lived in either a semi-rural /semi-urban (0.7%) or rural (32.8%) contexts. Depending on family circumstances, the participants reported living with at least one to 16 or more people, having varying opportunities to access drinking water sources (e.g., public tap, surface water / rivers, tube well), and having varying housing quality (i.e., housing materials, cooking fuel used, sanitation).

To be eligible for CI support, multiple criteria were considered, such as age, household monthly income relative to the number of dependents, lack of other financial child-sponsorship support, proximity to a CI-supported project site, and multiple indicators of poverty (e.g., housing quality, sanitation, access to resources such as water). Given that the data set being used comes from the CI Study of PYD, it is useful to employ the CI conception of poverty because it leads youth to either being admitted to CI programs or not. Youth comprising the non-CI-supported group were selected based on meeting CI's eligibility criteria and thus were appropriate for sponsorship if space and resources were available. In other words, all participants met the CI criterion for being in poverty; however, only CI youth were provided sponsorship.

Procedure

Data collected for this study were part of a larger research project, the CI Study of PYD in El Salvador (see Tirrell et al., 2019, 2022 for full details). Prior to data collection, informed assent from child participants and signed parental consent were obtained. In addition, participating youth were told that there were no penalties if they decided not to participate and that they could decide not to answer any question and could end their participation at any time without any penalties. The data were collected by a team of researchers, but the author was not part of the data collection and used de-identified data. Therefore, the Institutional Review Board (IRB) granted the author's research team exempt status for secondary data analysis.

Guided by feedback from the CI team and independent local data collectors, the researchers developed data collection measures that were specific and sensitive to the culture and context. The present study involved recruitment of and data collection from two groups: youth participating in CI programming in 20 program sites across El Salvador and comparison youth not supported by CI but living in the same communities as the CI students from a specific site. To be eligible for CI support multiple criteria were considered (e.g., age, indicators of poverty, proximity to a CI-supported project site). The CI program sites included in the study were selected based on CI staff judgments of sites that represented the best program outcomes and implementation (e.g., in regard to graduation rates and extra-program activities). Independent data collectors with experience with children were recruited from a local university. Prior to data collection, data collectors completed a three-day training (i.e., educating them about CI, introducing the study survey and methodology) and piloted the survey with CI-supported youth who were not participants included in the present study.

Data collection consisted of a self-reported youth online Qualtrics survey administered via one-on-one in-person sessions by a trained assessor. All instructions and questions were read aloud to the youth participant by the assessor and then the assessor entered the youth responses into the Qualtrics survey. The survey took between 30 to 45 minutes to complete. Participating sites were given thank-you gifts as determined by the project staff, including gift baskets, shoes, and/or clothing.

Measures

The measures used in the analyses were adapted specifically for use in El Salvador. All measures were translated from English to Spanish—the language represented in the project sites and communities included in the present study—and back-translated to English. The measures used rely on youth self-reported perceptions and assessments of how much they related to or identified with the items.

Resilience-Thriving Scores. The Positive Youth Development–Short Form measure (PYD-SF; Geldhof et al., 2013) was used to conceptualize the resilience-thriving system. The scale was originally developed to measure the Five Cs in the Lerner and Lerner PYD model (i.e., Competence, Connection, Confidence, Caring, and Character subscales; Lerner et al., 2005) and was further refined from the original 34-item measure into a 28 item five-factor measure with this specific sample (see Tirrell et al., 2019) which is the version that was used in this study. Participants were asked to respond to "How much are the following statements like you or not like you?" with the response option being a visual analog scale (0-100 range) that the participant could move from "Not at all like you" to "Exactly like you". For example, statements included "I'm happy with myself most of the time," "I feel like an important member of my local community," and "I feel my friends are good friends." A composite score for each of the Five Cs

was computed by averaging participant's scores across each of the subscale items (i.e., 4 items in Competence, 6 items in Connection, 6 items in Confidence, 6 items in Caring, and 6 items in Character). Within the sample, the Cronbach's alpha for Competence was .73, Connection was .80, Confidence was .80, Caring was .82, and Character was .74. Furthermore, within the sample, the McDonald's omega for Competence was .73, Connection was .80, Confidence was .80, Caring was .82, and Character was .75.

Hopeful Future Expectations. The items representing hopeful future expectations were derived from the 4-H Study of Positive Youth Development (Schmid et al., 2011) and further refined from the original 12-item measure into a six-item good fitting factor with this specific sample (see Tirrell et al., 2019). The hopeful future expectations scale consisted of six items (e.g., "Having a happy family life," "Being safe," and "Being healthy"). Participants were asked to respond to "How much do you imagine the likelihood of the following happening in your future?" using a visual analog scale (0-100 range) that the participant could move from "0%, no chance" to "100%, certain." A composite score for the hopeful future expectations scale was computed by averaging each participant's scores across the six items. Within the sample, the Cronbach's alpha was .90 and the McDonald's omega was .90.

Intentional Self-Regulation. The items representing intentional self-regulation were derived from Freund and Baltes (2002). The intentional self-regulation scale consisted of nine items (e.g., "When you cannot reach your goal, you try another way of doing it" and "When you are struggling with a goal, you ask for help"). Participants were asked to respond to "How much do each of these statements describe you?" with the response option involving a visual analog scale (0-100 range) that the participant could move from "Never like you" to "Always like you." A composite score for the intentional self-regulation scale was computed by averaging each

participant's scores across the nine items. Within the sample, the Cronbach's alpha was .88 and the McDonald's omega was .88.

Locus of Hope. The items representing locus of hope were generated for the CI Study of PYD and based on appraisals of the presence of helpful external agents with the ability to bring about desired ends. The locus of hope scale consisted of six items (e.g., "My family has helped me meet the goals that I have set for myself" and "My friends always support me in the pursuit of my life goals"). Participants were asked to respond to "How much do you agree or disagree with the following statements?" with the response option involving a visual analog scale (0-100 range) that the participant could move from "Completely disagree" to "Completely agree." A composite score for the locus of hope scale was computed by averaging each participant's scores across the six items. Within the sample, the Cronbach's alpha was .76 and the McDonald's omega was .67.

Known and Loved. The items representing feeling known and loved by adults were generated for the CI Study of PYD and developed into a theory-predicated measure with this specific sample (see Tirrell et al., 2022). The known and loved scale consisted of five items (e.g., "There is at least one adult in your life who accepts you for who you are" and "There is at least one adult in your life who loves you"). Participants were asked to respond to "How much do you agree or disagree with the following statements?" with the response option involving a visual analog scale (0-100 range) that the participant could move from "Completely disagree" to "Completely agree." A composite score for the known and loved scale was computed by averaging each participant's scores across the five items. Within the sample, the Cronbach's alpha was .91 and the McDonald's omega was .92.

Analysis Plan

The study examined the relationships among internal assets, external assets, and resilience-thriving scores. The analysis followed a multi-step structural equation modeling process using R Statistical Software (Version 4.4.1; R Core Team, 2024), beginning with a confirmatory factor analysis (CFA) using the lavaan package (Rosseel, 2012), and followed by a structural regression analysis using the lavaan package (Rosseel, 2012) to understand the main effects and concluding with the semTools package (Schoemann & Jorgensen, 2021) to explore interaction effects. The final analytic step determined whether the scores on the resilience-thriving measure exhibited enough variability within the current sample to serve as a potential evidence base for future analyses aimed at distinguishing the states shown in Figure 1.

CFA

Preliminary analyses were performed to test whether assumptions were met for CFA (e.g., descriptive statistics and normality check, correlations, identifying extreme outliers). Next, a three-factor CFA analysis was conducted to test the latent factors of internal assets, external assets, and resilience-thriving. The composite score of two manifest variables (i.e., hopeful future expectations and intentional self-regulation) were specified to load onto the latent variable of internal assets, the composite score of two manifest variables (i.e., locus of hope and known and loved) were specified to load onto the latent variable of external assets, and the composite score for five manifest variables (i.e., Competence, Connection, Confidence, Caring and Character) was specified to load onto the latent variable of resilience-thriving. See Figure 3 for the measurement model.

The CFA was conducted using robust maximum likelihood estimation given that all variables included in the analyses are continuous. Furthermore, full information maximum likelihood (FIML) was used to handle the limited missing data in the CFA analyses. I used

multiple goodness of fit indices as recommended by Brown (2006). Absolute fit was tested by checking the standardized root mean square residual (SRMR), with values closer to 0 indicating better fit but acceptable fit determined at ≤ .08 (Hu & Bentler, 1999). Model $\chi 2$ was reported but not used to assess model fit as the large sample size often leads to indications of poor fit (Rutkowski & Svetina, 2017). Parsimony-corrected fit was assessed by evaluating the root mean square error of approximation (RMSEA) and its confidence interval with values closer to 0 indicating better fit but acceptable fit determined at ≤ .08 (Hu & Bentler, 1999). Comparative fit, the evaluation of the specified solution in comparison to a null model in which no items are correlated, was tested with the comparative fit index (CFI) and the Tucker-Lewis index (TLI), with values closer to 1 indicating better model fit (Brown, 2006). The suggested lower bounds, or cut-off values, of acceptable fit for the CFI and TLI are .90, and ideally above .95 (Bentler, 1990).

Structural Regression Analyses

After testing the measurement model in the CFA, structural regression models were estimated consisting of the latent variables discussed in the prior CFA section (i.e., internal assets, external assets, and resilience-thriving). First, a structural equation model was conducted using a model consisting of the two latent variables, internal assets and resilience-thriving, to test if internal assets significantly predicted resilience-thriving. Next, a structural equation model was conducted using a model consisting of the two latent variables, external assets and resilience-thriving, to understand if external assets significantly predicted resilience-thriving. Last, an interaction analysis was conducted using a product-indicator approach to determine whether the effect of internal assets on resilience-thriving varies depending on the level of external assets and

whether the association between external assets and resilience-thriving is moderated by internal assets.

Coefficients were considered statistically significant at $p < .05$. Model evaluation was determined using the same fit statistics mentioned above in the CFA section. Similarly, model $\chi 2$ was reported but not used to assess model fit as the large sample size often leads to indications of poor fit (Rutkowski & Svetina, 2017). The structural regressions were conducted using robust maximum likelihood estimation and missing data was accounted for using the full information maximum likelihood (FIML) approach.

Resilience-Thriving Scores

As previously noted, to adequately test the resilience-thriving system model two key components would need to be coupled. First, there would need to be theoretically-defined thresholds and/or empirically-established norms for differentiating the three states depicted in Figure 1 through the use of the scores on the resilience-thriving measure used in the present study (or ideally through the use of multiple measures). Second, data from a test of the model in Figure 2 would need to demonstrate that variation in internal and external asset scores predicted the different states shown in Figure 1. Given that the first component does not exist yet, a final analytic step in the present research was to ascertain if the scores on the resilience-thriving measure had sufficient variability within the present sample to serve as a potential evidence base for further analyses pursuing either theoretical or empirical means to differentiate the states shown in Figure 1.

As such, the final analytic step aimed to examine the relationship between (a) resilience-thriving scores differentiated into the states shown in Figure 1—specifically, "neither resilience nor thriving," "resilience," and "thriving"—and (b) two key variables (internal assets and

external assets) depicted in Figure 2. To operationalize this analysis, three dummy variables were created, each representing one of the states shown in Figure 1. Specifically, all participants who reported resilience-thriving scores below the box of a boxplot (i.e., below 67.5) were coded as "neither resilience nor thriving;" all participants who reported resilience-thriving scores within the box of the boxplot (i.e., between 67.5-90.1) were coded as "resilience;" and all participants who reported resilience-thriving scores above the box of the boxplot (e.g., above 90.1) were coded as "thriving" (see Figure 3 for box plot). These variables were coded as 1 if an individual fell within the specified range of scores and 0 otherwise. Point-biserial correlations were then conducted between each dummy variable and the internal assets and external assets scores to assess the strength and direction of associations between the states and asset levels. This approach allowed for a preliminary exploration of whether individuals classified as "resilience" or "thriving" show positive associations with internal and external assets, whereas those in the "neither resilience nor thriving" category might display significantly lower (or perhaps even negative) associations. This step provided an initial basis for evaluating the distinctiveness of these states, setting a foundation for further theoretical or empirical differentiation.

Results

The goals of this research were: 1. to provide preliminary descriptive data regarding internal and external asset variables as well as the resilience thriving variable; 2. create latent factors of internal assets, external assets, and the resilience-thriving; 3. to identify if there are differential associations in internal and external assets on resilience-thriving; and 4. determine whether the scores on the resilience-thriving measure exhibited enough variability within the current sample to serve as a potential evidence base for future analyses aimed at distinguishing the states shown in Figure 1. To accomplish these goals, I conducted a CFA to test the

measurement model of individual assets, external assets, and resilience-thriving and then I conducted structural regression analyses to test whether internal and external assets were predictive of resilience-thriving. Next, I ran an interaction analysis to understand if the interplay between internal and external assets also significantly predicts resilience-thriving. Last, I performed point-biserial correlations between dummy variables (i.e., coded as each of the three states in Figure 1) and the internal and external assets scores to assess the strength and direction of associations between the states and asset scores.

Preliminary Analyses

Preliminary analyses were performed to assess the suitability of the data for the proposed analyses. Visual inspection of histograms and descriptive statistics suggested that none of the study variables were normally distributed, specifically, all had high mean scores and were negatively skewed, which was confirmed by statistical tests of normality (see Table 1 for descriptive statistics for all study variables). Second, I conducted visual inspections of box plots to identify univariate outliers and found that cases were found beyond the whiskers for all study variables. Upon further inspection through computing *z*-scores, eight of the nine study variables had cases above an absolute value of three. Specifically, two outliers were found within known and loved and Caring, three outliers were found within locus of hope, and one outlier was found within hopeful future expectations, Character, Competence, Confidence, and Connection. All outliers were plausible values and retained in the analytic sample. Scatterplots showed approximately linear relationships and Pearson product-moment correlations indicated significant relationships between all study variables (all coefficients between .36-.66 and significant at $p < .01$; see Table 2). Although there were outliers identified and the data were not normally distributed, I concluded that the sample size was large enough to be able to move

forward with analyses. The composite scores included minimal missing data (i.e., 1-4% missing depending on the variable) and FIML was used to handle the limited missing data in the analyses. As a result of six participants having missing data across all the study variables, the analytic sample was made up of 1,199 participants.

Confirmatory Factor Analysis

To test the latent factors of internal assets (made up of composite scores of intentional self-regulation and hopeful future expectations), external assets (made up of composite scores of locus of hope and known and loved), and resilience-thriving (made up of composite scores of each of the Five C's of PYD), I estimated a three-factor CFA. The model did provide an acceptable fit to the data, as shown by the global fit indices, $\chi^2(24) = 204.00$, $p < .001$; RMSEA = .08, 90% CI [.72, .87]; SRMR = .04; CFI = .94; and TLI = .91. However, local fit indices, namely, multiple modification indices were higher than 20 and the standardized model fit residuals matrix indicated multiple residuals of covariances between items that were above the absolute value of three. Thus, the model could be improved. The most influential way to improve model fit was to address the covariance between the Caring and Character composites which reported a modification indices of 133.72 and a standardized residual of 8.89. To improve the overall model fit, the CFA model was re-specified by introducing one correlated error, between the specific composite scores (i.e., Caring and Character) of the resilience-thriving latent factor. This modification was guided by the local fit indices noted above and theoretical considerations. As reported in the literature, multiple studies have demonstrated a conceptual overlap in the Five Cs of PYD between Caring and Character (Johnson & Ettekal, 2022), which was also confirmed in the current study.

The re-specified CFA model demonstrated improved global fit indices, $\chi^2(23) = 125.82$, $p < .001$; CFI = .97; TLI = .95; RMSEA = .06, 90% CI [.05, .07]; and SRMR =.03. Taken together, the global fit indices suggested that the re-specified model provided a more adequate representation of the observed data compared to the initial specification. Although both models did not show adequate fit through the $\chi 2$ test, the likelihood ratio test reported that the re-specified model was a significantly better fit than the initial model. Furthermore, I did not retain other local modification fit indices that were reported as there was not a theoretical rationale for doing so. The standardized factor loadings for all composites on their respective latent factors were statistically significant ($p < .001$) and ranged from [.58-.82; see Figure 4 for measurement model with standardized factor loadings]. The added correlation between the error terms of Caring and Character was statistically significant ($p < .001$), which supported the decision to include the correlated error in the re-specified model. Factor correlations were significant ($p < .001$) between all latent factors with strong positive relationships (i.e., .87-92 range of magnitude). In short, the re-specified three-factor CFA model, incorporating one correlated error, demonstrated a good fit to the data, supporting its use in subsequent structural regression analyses.

Structural Regression Analyses

To evaluate the relationships among the latent constructs—internal assets, external assets, and resilience-thriving—structural regression analyses were conducted. To start, a model consisting of the two latent variables, internal assets and resilience-thriving, was estimated to understand if internal assets significantly predicted resilience-thriving. Model fit was within reasonably good limits ($\chi^2(12) = 49.23$, $p < .001$; CFI = .99; TLI = .97; RMSEA = .05 [90% CI: .04, .06]; and SRMR = .02) and the standardized factor loadings for all composites on their

respective latent factors were statistically significant ($p < .001$) and ranged from [.67-.84; see Figure 5]. The structural component reported that internal assets were a significant predictor ($p < .001$) of resilience-thriving and explained 83% of the variance in participants' resilience-thriving scores. Next, a model comprising of the two latent variables, external assets and resilience-thriving was estimated to determine if external assets significantly predicted resilience-thriving. Model fit was within reasonably good limits ($\chi^2(12) = 59.86$, $p < .001$; CFI = .98; TLI = .96; RMSEA = .06 [90% CI: .05, .07]; and SRMR = .02) and the standardized factor loadings for all composites on their respective latent factors were statistically significant ($p < .001$) and ranged from [.58-.82; see Figure 6]. The structural component demonstrated that external assets were a significant predictor ($p < .001$) of resilience-thriving and explained 89% of the variance in participants' resilience-thriving scores.

Subsequently, I employed an interaction model composed of all three latent variables to assess if the association of internal assets on resilience-thriving will vary depending on the level of external assets, and correspondingly, if external assets will be moderated by internal assets. Model fit was within reasonably good limits ($\chi^2(21) = 123.48$, $p < .001$; CFI = .97; TLI = .94; RMSEA = .07 [90% CI: .06, .08]; and SRMR = .03) and the standardized factor loadings for all composites on their respective latent factors were statistically significant ($p < .001$) and ranged from [.59-.83]. The structural component indicated that internal assets (estimate = 9.62, $p = .18$) and external assets (standardized estimate = 1.75, $p = .82$) were not significant predictors of resilience-thriving; however, the interaction between internal and external assets was a significant predictor of resilience-thriving (estimate = 5.09, $p < .001$).

As illustrated in the interaction plot in Figure 7, internal assets were positively associated with resilience-thriving across all levels of external assets. However, the strength of this positive

relationship was moderated by external assets. Specifically, at low levels of external assets, the effect of internal assets on resilience-thriving was relatively small, with resilience-thriving increasing slowly as internal assets increased. In contrast, at medium levels of external assets the relationship between internal assets and resilience-thriving was stronger, and at high levels of external assets, the effect was strongest, with resilience-thriving increasing steeply as internal assets increased. This finding revealed the role of internal assets varies depending on the level of external assets and vice versa, and highlighted the interplay of internal and external assets in predicting resilience-thriving. In other words, youth with high internal assets (e.g., intentional self-regulation skills and hopeful future expectations) demonstrated further thriving if they also had access to external assets such as supportive, loving relationships. Furthermore, this significant interaction aligns with the premises of the dynamic resilience-thriving system model and suggests that interventions should target both internal and external assets to maximize resilience and thriving in youth. Altogether, this result shows how personal strengths and environmental resources can work together to meaningfully promote positive outcomes in youth development.

Resilience-Thriving Scores

To assess whether the resilience-thriving scores show sufficient variability within the current sample to support future analyses that distinguish the states in Figure 1, point-biserial correlations were conducted to examine the relationship between dummy-coded variables representing each of the three states in Figure 1 ("neither resilience nor thriving," "resilience," and "thriving") and the internal and external assets scores. The analyses revealed significant associations between the three states in Figure 1 and internal and external assets. A moderate negative correlation was found between the "neither resilience nor thriving" state and both

internal assets ($r(1,197) = -0.51$, $p < .001$) and external assets ($r(1,197) = -0.46$, $p < .001$), suggesting that the "neither resilience nor thriving" state is associated with lower asset scores. The "resilience" state showed weak negative correlations with both internal assets ($r(1,197) = -0.16$, $p < .001$) and external assets ($r(1,197) = -0.14$, $p < .001$), indicating a slight association with lower asset scores, although the effect sizes were minimal. In contrast, the "thriving" state exhibited moderate positive correlations with both internal assets ($r(1,197) = 0.47$, $p < .001$) and external assets ($r(1,197) = 0.42$, $p < .001$), suggesting that the “thriving” state is associated with higher asset scores.

Discussion

The purpose of this research was to illuminate the theoretical usefulness of the resilience-thriving system model to study resilience and thriving through an empirical study comprised of impoverished Salvadoran youth. Specifically, this research 1. estimated a three-factor CFA to test the latent factors of internal assets, external assets, and resilience-thriving; 2. investigated whether internal and external assets are differentially associated with resilience-thriving; and 3. determined whether the scores on the resilience-thriving measure exhibit enough variability within the current sample to serve as a potential evidence base for future analyses aimed at distinguishing the states shown in Figure 1. The findings from this study provide several important insights that enhance understanding of the relationships among internal assets, external assets, and resilience-thriving in a sample of impoverished Salvadoran youth.

The initial three-factor CFA that was estimated indicated acceptable fit but that the measurement model needed modifications to better fit the data. After examining the local fit indices and reviewing the extant literature, the CFA was respecified to allow a correlated error between Caring and Character. The respecified CFA demonstrated a good fit between the three-

factor model and the observed data, suggesting that the model provided a good representation of the underlying constructs. The results of this study align with previous research that points to a theoretical connection between the constructs of Caring and Character within the context of thriving research (e.g., Johnson & Ettekal, 2022).

The structural regression analyses highlighted the dynamic interplay between internal and external assets in predicting resilience-thriving. Whereas internal and external assets were individually significant predictors of resilience-thriving when tested independently, the interaction model provided the most compelling insight. This model revealed that the strength of the relationship between internal assets (e.g., intentional self-regulation, hopeful future expectations) and resilience-thriving was moderated by external assets (e.g., supportive relationships, locus of hope). Specifically, youth with high internal assets thrived most significantly when they also had access to high external assets. Conversely, at low levels of external assets, the benefits of internal assets were more limited. This finding supports the idea that neither internal nor external resources alone tell the whole story; instead, it suggests that the combination of internal and external assets best facilitates resilience and thriving. Altogether, the findings here underscore the need to move beyond examining these constructs in isolation and instead consider their combined influence.

This interaction effect aligns with the theoretical framework of a dynamic resilience-thriving system model, which posits that the combined presence and interaction of internal and external assets can yield stronger positive outcomes compared to each asset in isolation. Moreover, the finding highlights the importance of designing holistic interventions that address both internal and external assets. For instance, programs that cultivate skills such as self-regulation and hope should simultaneously work to create supportive environments, such as

fostering meaningful relationships or improving access to resources. This dual approach can maximize the potential for resilience and thriving. Furthermore, the findings resonates with the Phenomenological Variant of Ecological Systems Theory (PVEST), which emphasizes the role of youth's perceptions and interpretations of their environments in shaping developmental trajectories (Spencer, 1995, 2006). PVEST's emphasis on the interplay between objective adversity and subjective experience provides a valuable framework for expanding this study in future analyses to incorporate both dimensions.

Last, point-biserial correlations were conducted to assess whether the resilience-thriving scores showed sufficient variability within the current sample to support future analyses that distinguish the states in Figure 1 (i.e., "neither resilience nor thriving," "resilience," and "thriving") and two key variables (internal and external assets) outlined in Figure 2 that predict placement in the resilience-thriving system. This final step in the analyses provided an initial basis for evaluating the distinctiveness of these states, setting a foundation for further theoretical or empirical differentiation. The findings revealed that the three states in Figure 1 varied meaningfully in association with internal and external assets. Specifically, the "neither resilience nor thriving" state demonstrated moderate negative correlations with internal and external assets, indicating that this state is associated with lower asset scores. Conversely, the "thriving" state exhibited moderate positive correlations with both internal and external assets, suggesting that this state is associated with higher asset scores. Whereas the "resilience" state showed weak negative correlations with internal and external assets, suggesting that although associated with asset scores, this state does not exhibit as strong an association with assets as the "neither resilience nor thriving" group. This variation revealed the model's potential for identifying

unique profiles of resilience and thriving, indicating that individuals within each state experience different levels of personal and contextual resources.

This finding supports a broader conceptualization of thriving as a developmental outcome that extends beyond resilience. Thriving reflects a state of optimal development, which can occur in both adverse and supportive contexts. This distinction is critical, as it shifts the focus from overcoming challenges to promoting growth, regardless of the presence of adversity. By integrating resilience and thriving within a unified framework, this study contributes to a more comprehensive understanding of youth development as a dynamic, multidimensional process.

Limitations and Future Directions

There are numerous potential factors based on the design of the study that may have contributed to the results and that indicate the need for further research. First, this study employed a cross-sectional design, which can only assess the variables included in the analyses at one time point. Therefore, to gain a greater understanding of the temporal variability of the relationships between the latent factors among El Salvadoran youth future research should use longitudinal research designs. Second, the measurement model was estimated with composite scores, which may mask item-level variability. Future research could explore the use of item-level analysis to provide a more nuanced understanding of the relationships between the observed and latent factors. Third, a limitation of these variables was that they were negatively skewed, which influenced the model to be less generalizable for people who scored lower on them (i.e., heteroscedastic).

Fourth, this study relied solely on self-reported perception data to measure both internal and external assets, which introduces potential response bias. Participants may have over- or underestimated their assets and resilience-thriving. Future research should leverage objective

data available in the dataset, such as poverty indicators (e.g., housing quality, access to water, health care access), to complement self-reported asset measures. Triangulating objective and subjective data, as the PVEST model suggests, would allow for a more comprehensive understanding of the relationships between environmental conditions, assets perceptions, and resilience-thriving; as well, this addition will inform interventions that address both structural barriers and individual perceptions. Fifth, although all participants met Compassion International's criteria for impoverishment, the study drew its sample from program sites that Compassion International practitioners identified as having the best implementation and outcomes. As such, the findings may not fully generalize to sites with less comprehensive implementation. Future research should expand the scope to include a broader range of program sites to better assess the variability in implementation and outcomes across different program contexts, which could provide a more realistic picture of the interplay between internal and external assets and resilience-thriving in programs with varying levels of implementation quality.

Sixth, the measures used in this study were adapted for use in El Salvador from previously used measures, therefore the measures were not previously validated with El Salvadoran youth and may not be valid for an El Salvadoran youth sample. Due to the overrepresentation in the research literature of studies involving Western, educated, industrialized, rich, and democratic (WEIRD) samples in the minority world and the underrepresentation of research involving samples within the majority world (Draper et al., 2022; Henrich et al., 2010; Thalmayer, Toscanelli, & Arnett, 2021), there is a shortage in the number of validated scales available for studying youth in El Salvador. Future research is needed to address this gap in the literature and provide a path to conducting more research about child development in the majority world.

Last, and arguably one of the most prominent limitations, is that there are neither theoretically-defined thresholds identifying specific markers for the transition points between the states depicted in Figure 1 (i.e., "neither resilience nor thriving," "resilience," and "thriving") nor existing empirical norms derived from studies of comparable Salvadoran youth for differentiating the three states that currently exist. Thus, the key challenge in empirically testing this model lies in creating a set of scores that provide valid differentiations among the three states represented in Figure 1. In recognition of this limitation, this research is intended to serve only as a starting point for such testing. Future research that establishes thresholds, either through theoretical or empirical means, would provide greater clarity and precision in distinguishing these states.

Conclusions

To conclude, the present study contributes to our understanding of how internal and external assets can promote resilience and thriving in a sample of impoverished Salvadoran youth. This study serves as an initial step to show that the variables I have chosen are meaningfully related, consistent with the model, and that differences internal and external assets are associated with differences in the resilience-thriving scores at one point in time. In essence, it provides preliminary evidence of the theoretical usefulness of the resilience-thriving system model to study resilience and thriving. By demonstrating that neither internal nor external resources alone are sufficient; rather, it is the combination of internal and external assets that best facilitates resilience and thriving among youth facing adversity supports the importance of holistic approaches that target both individual and environmental factors in interventions. Future research should further explore how specific combinations of internal and external assets contribute to resilience and thriving in different contexts, with particular attention to how these

relationships may vary across diverse cultural and socioeconomic settings. Furthermore, by providing an initial basis for evaluating the distinctiveness of the states shown in Figure 1 (i.e., "neither resilience nor thriving," "resilience," and "thriving"), this study offers a starting point for the foundation for further theoretical or empirical differentiation. Continued research of these thresholds is required to contribute to a more comprehensive understanding of resilience and thriving in youth worldwide, particularly in underrepresented populations.

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Table 1

Descriptive Statistics of Study Variables

Study Variables	N	M (SD)	Skewness	Kurtosis	SE
Intentional Self-Regulation	1192	87.99 (13.36)	-1.78	4.74	0.39
Hopeful Future Expectations	1186	92.61 (11.70)	-2.23	5.98	0.34
Known and Loved	1199	93.90 (10.57)	-2.78	9.82	0.31
Locus of Hope	1195	90.44 (11.48)	-1.62	3.04	0.33
Caring	1197	87.34 (14.69)	-1.54	2.68	0.42
Character	1184	85.85 (13.59)	-1.31	2.08	0.40
Competence	1189	76.20 (17.83)	-0.85	0.83	0.52
Confidence	1172	88.14 (13.43)	-1.73	4.10	0.39
Connection	1161	83.32 (14.82)	-1.24	1.67	0.44

Note. All items that created the composite scores of the study variables ranged from 0 to 100

Table 2

Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8
1. Intentional Self-Regulation	-							
2. Hopeful Future Expectations	.56** [.52, .60]	-						
3. Known and Loved	.41** [.36, .46]	.39** [.34, .44]	-					
4. Locus of Hope	.59** [.55, .62]	.53** [.49, .57]	.48** [.43, .52]	-				
5. Caring	.58** [.54, .61]	.44** [.39, .48]	.35** [.30, .40]	.45** [.40, .49]	-			
6. Confidence	.57** [.53, .61]	.49** [.44, .53]	.40** [.35, .44]	.48** [.44, .52]	.51** [.46, .55]	-		
7. Connection	.59** [.55, .62]	.50** [.46, .55]	.46** [.41, .50]	.66** [.63, .69]	.56** [.52, .60]	.62** [.58, .66]	-	
8. Competence	.54** [.49, .57]	.37** [.32, .42]	.34** [.28, .39]	.50** [.46, .54]	.46** [.42, .51]	.57** [.53, .61]	.60** [.56, .64]	-
9. Character	.62** [.58, .65]	.45** [.40, .50]	.29** [.24, .34]	.45** [.41, .50]	.67** [.64, .70]	.57** [.52, .60]	.55** [.51, .59]	.53** [.49, .57]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.

Figure 1. The resilience-thriving system represents a dynamic system of adaption that reflects states of either not demonstrating resilience or thriving, demonstrating resilience, or demonstrating thriving with the overlapping areas representing the intersections between them. Across time, any sequence of states may be possible and multiply determined by individual ⇔ contextual factors.

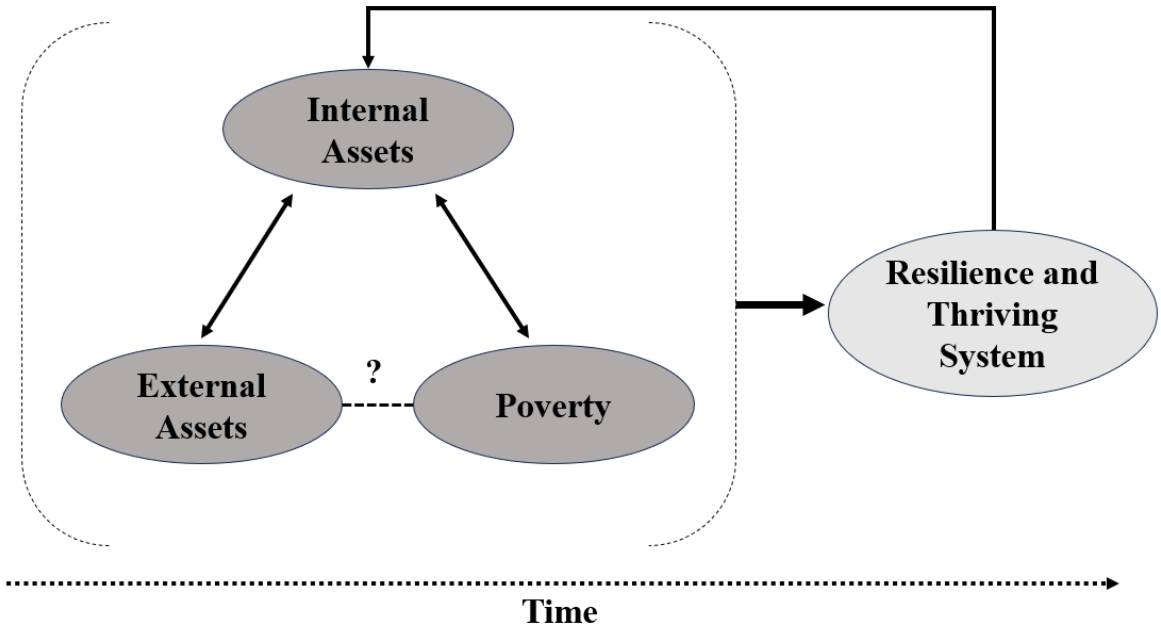

Figure 2. Resilience-Thriving System Model. This model can be used to assess if and how characteristics of the individuals and context place youth in different states within the resilience-thriving system. The feedback loop (i.e., the arrow that goes from the resilience-thriving system back to the individual and context variables block) and the arrow of time represent the idea that this process is continuous and can change over time.

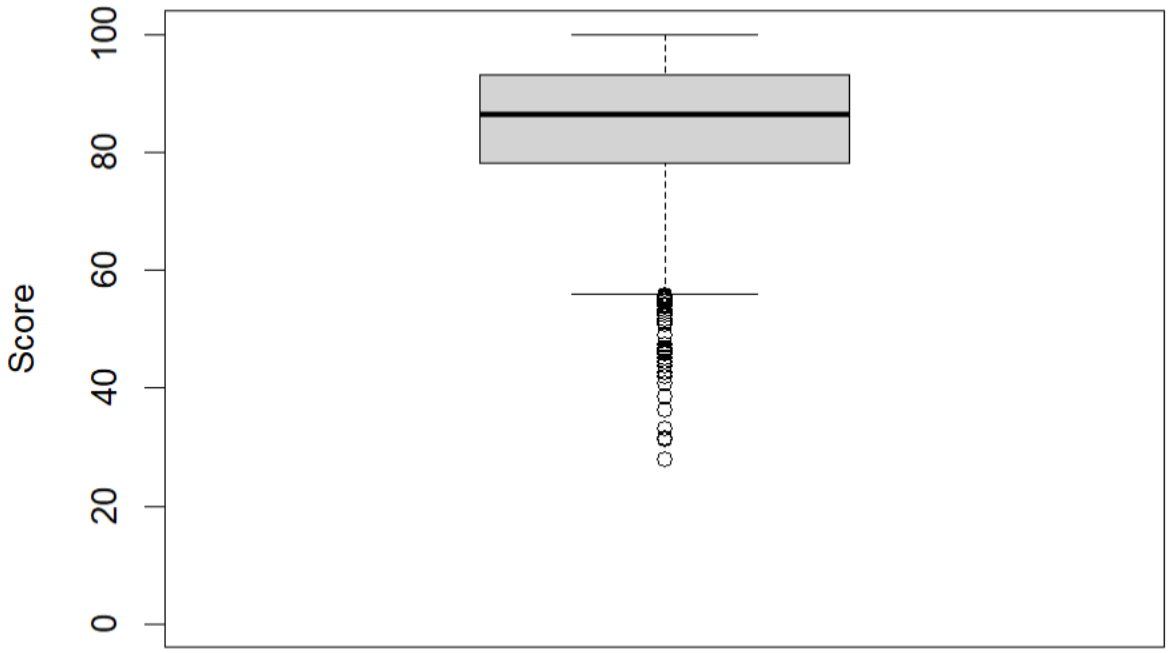

Figure 2. Box Plot of Resilience-Thriving Scores. This figure displays the distribution of resilience-thriving scores among youth that was used to categorize youth into three distinct states: "neither resilience nor thriving," "resilience," and "thriving." Youth reporting resilience-thriving scores below the box of the boxplot (i.e., below 67.5) were coded as "neither resilience nor thriving" (n = 115), scores within the box of the boxplot (i.e., between 67.5 and 90.1) were coded as "resilience" (n = 628), and participants with scores above the box of the boxplot (i.e., above 90.1) were coded as "thriving" (n = 456).

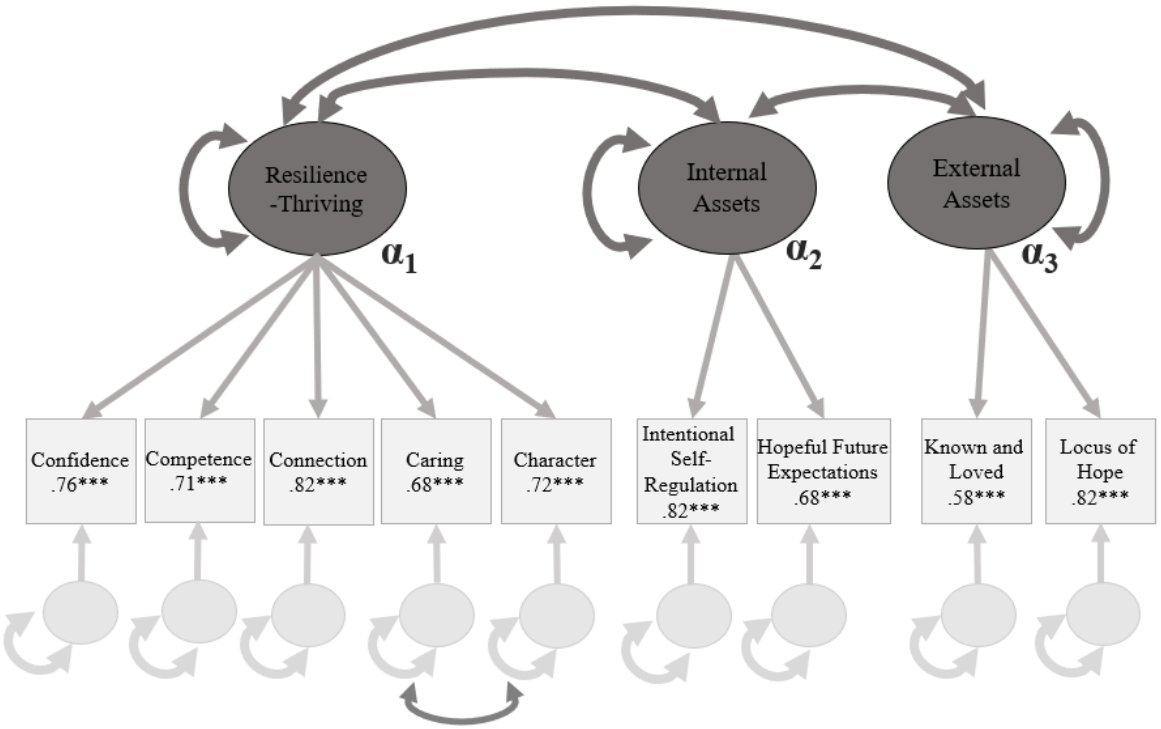

Figure 4. Three Factor Confirmatory Factor Analysis Measurement Model. Resilience-thriving represents a latent variable with five indicators (i.e., composite score of each of the Five C's of PYD: caring, connection, character, confidence, and competence) and one correlated error between the indicators caring and character. External assets represents a latent variable with two indicators (i.e., composite score of hopeful future expectations and intentional self-regulation). Internal assets represents a latent variable with two indicators (i.e., composite score of locus of hope and known and loved).

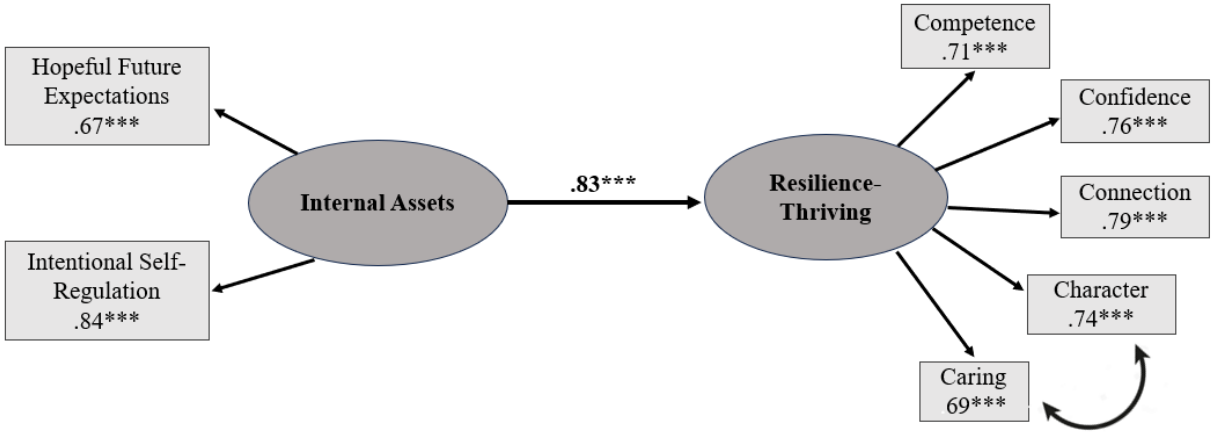

Figure 5. This structural regression model illustrates the relationship between internal assets and the resilience-thriving system. Internal assets, composed of hopeful future expectations and intentional self-regulation, significantly predict the resilience-thriving system scores, made up of composite scores of each of the Five C's of PYD. The correlation between the error terms of the Caring and Character components is also included to improve model fit.

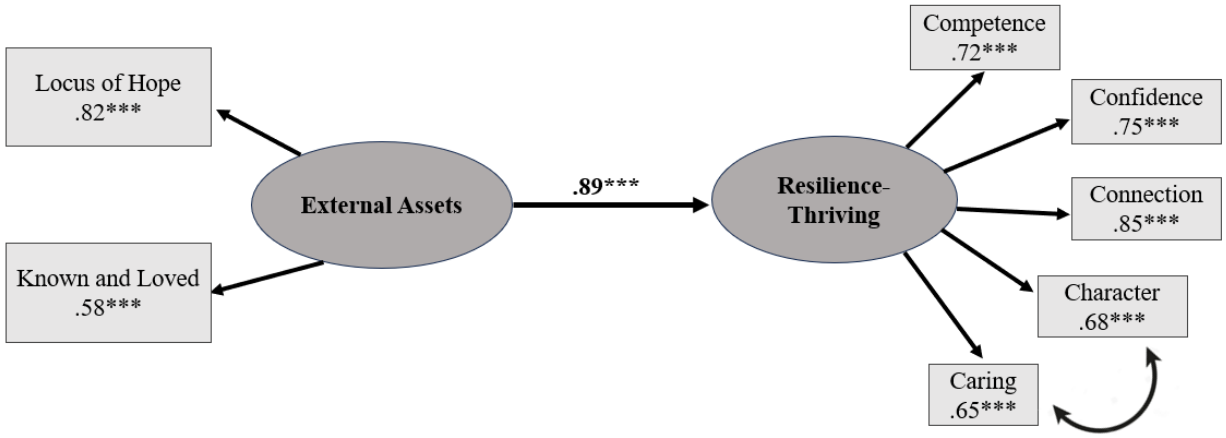

Figure 6. This structural regression model illustrates the relationship between external assets and the resilience-thriving system. External assets, composed of locus of hope and known and loved, significantly predict the resilience-thriving system scores, made up of composite scores of each of the Five C's of PYD. The correlation between the error terms of the Caring and Character components is also included to improve model fit.

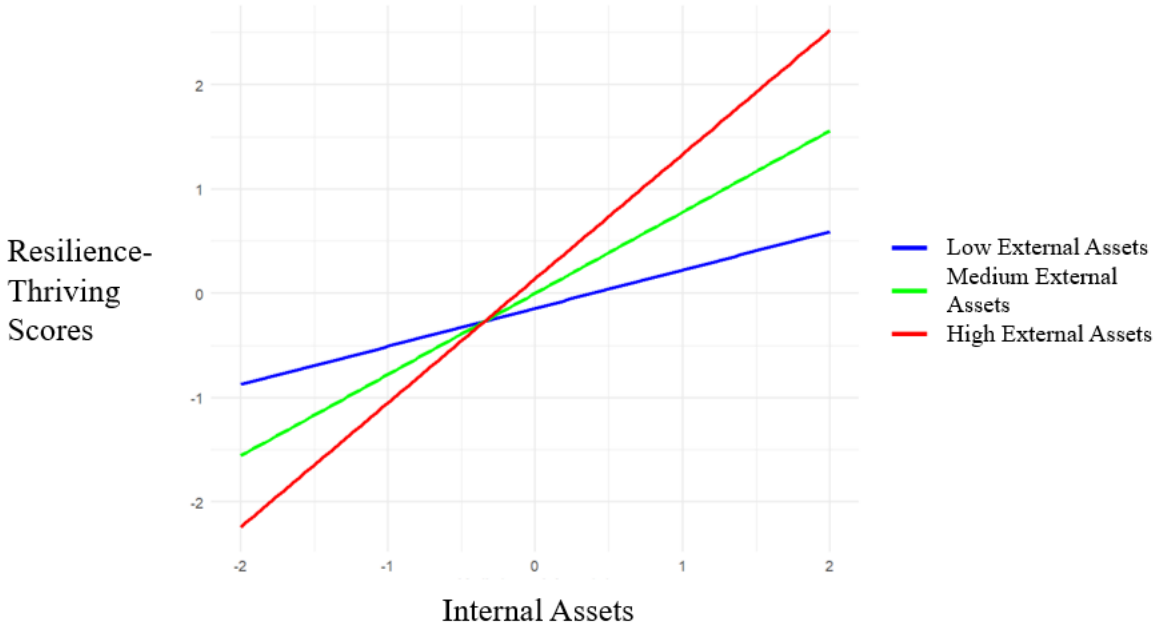

Figure 7. Interaction Plot of Internal and External Assets on Resilience-Thriving System scores. This figure illustrates the moderating role of external assets in the relationship between internal assets and resilience-thriving system scores. The x-axis represents internal assets, the predictor variable, whereas the y-axis shows the resilience-thriving scores. The three lines represent different levels of external assets (low = blue, medium = green, high = red).

The slopes indicate that the positive association between internal assets and resilience-thriving scores is stronger at higher levels of external assets. Specifically, when external assets are high (red line), increases in internal assets are associated with the steepest gains in resilience-thriving scores. When external assets are low (blue line), the positive association of internal assets on resilience-thriving scores are weaker. This figure highlights the interactive contribution of internal and external assets to resilience-thriving scores.