Family Economic Adversity and Later-Life Physical Health and Well-being

Family Economic Adversity and Later-Life Physical Health and Well-being:

An Integrative Framework

By

Kandauda A. S. Wickrama,
Catherine Walker O'Neal
and K. A. Thulitha Wickrama

Cambridge Scholars Publishing

Family Economic Adversity and Later-Life Physical Health and Well-being: An Integrative Framework

By Kandauda A. S. Wickrama, Catherine Walker O'Neal
and K. A. Thulitha Wickrama

This book first published 2025

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-0364-1705-5
ISBN (Ebook): 978-1-0364-1706-2

TABLE OF CONTENTS

PREFACE

During the mid-later years (40+ years of age), the heterogeneity of health and well-being increases, largely because of the onset of chronic illnesses, including diabetes, hypertension, arthritis, and cardiovascular diseases (Lorenz et al., 2006). The heterogeneity persists, and even expands, into later years (60+ years of age). Previous studies have documented that finances (including experiences of objective financial hardship and subjective financial adversity or stress) earlier in life play a considerable role in the heterogeneity in health and well-being in later years. Research suggests numerous mechanisms that explain how financial economic adversity (FEA) comes to influence later life health and well-being, including biological, psychological, behavioral, and structural mechanisms.

While previous studies have yielded important findings about responsible pathways, the lack of integration of these mechanisms is problematic for a comprehensive understanding of how FEA is associated with the later-life physical health and well-being outcomes. To address this gap, this book provides a single, integrative framework that encapsulates the various mechanisms responsible for the association between FEA and later-life health and well-being. An additional novel aspect of this book is its relational emphasis, particularly acknowledging the interdependence that exists for older adults in enduring, long-term romantic relationships. That is, there can be individual, relational, and couple-level processes involving the linkages between FEA and later-life health and well-being

Existing theoretical and empirical research is described to support the integrative framework. For instance, incorporated theoretical frameworks include the life course perspective (Elder & Giele, 2009), stress process perspective (Pearlin et al., 2005), family stress model (Conger et al., 1999), and relational perspective (e.g., interdependencies and similarities) (Berscheid & Ammazzalorso, 2001), among others.

The development of an integrative framework to inform research on the health and well-being impacts of FEA is timely given that longitudinal datasets with dyadic data are increasingly available capturing a wide array of multi-dimensional constructs (e.g., family economic hardship, family and

marital relations, mental and physical health outcomes, biomarkers, and genes).

Consequently, to advance this research, this book provides:

- a brief conceptualization with figures for each pathway connecting FEA and subsequent physical health and well-being outcomes.
- illustrative empirical examples from existing studies (particularly research from the Later Adulthood Study as described in Appendix 1).
- Demonstrations of results' interpretation for both statistical and theoretical concepts.

Intended Audience

This book is designed to be used as a supplementary text book along with other available books on social and family epidemiology for graduate level courses or self-study for graduate students, instructors, and researchers in various disciplines. This book is well-suited for a variety of courses and fields of study interesting in how contextual factors, particularly finance-related factors, contribute to health and well-being, such as social epidemiology, family gerontology, social determinants of health, public health, medical sociology, marriage and family, aging and health, couple and family therapy or counseling, and dyadic data analysis. Students who have completed basic statistics courses have the knowledge and skills necessary to use this book.

Content

This book is divided into three parts to describe a single, integrative framework summarizing the various mechanisms responsible for the association between family economic adversity (FEA) and later-life health and well-being, acknowledging the interdependence that exists for older adults in enduring, long-term romantic relationships.

Part one consists of Chapters 1 and 2, where Chapter 1 introduces the theoretical perspectives that support the proposed integrative framework connecting FEA to the later-life health and wellbeing of couples in committed relationships. Chapter 2 summarizes the conceptualization and measurement of FEA and physical and well-being outcomes.

Part two consists of Chapters 3 through 8, which together discuss each individual pathway connecting FEA to later-life health and well-being, considering both mediational and modulational influences. These pathways include:

- material constraints pathway (Chapter 3),
- a physiological response pathway (Chapter 4),
- a psychological response pathway (Chapter 5),
- a behavioral response pathway (Chapter 6),
- a psychosocial resource pathway (Chapter 7), and
- individual characteristics (Chapter 8).

Part three consists of Chapter 9, which illustrates how the dyadic, couple context factors into these pathways linking FEA to later-life physical health and well-being.

Acknowledgements

Our book is a collective effort that would not have materialized without the dedication of each of the authors. We appreciate the thoughtful feedback and support provided by research associates and graduate students, particularly Seonhwa Lee, Tae Kyoung Lee, Rachel Okamoto, and Avery Murdie. We are also thankful for the constructive comments from anonymous reviewers, which strengthened the ideas presented in this book. We are grateful for the support and advice rendered by our late colleague, Dr. Frederick O. Lorenz as well as the support of Dr. Rand Conger and all of those involved in Later Adulthood Study (LAS), without whom much of the research synthesized in this book would not have been possible. Over the years of the project, support for this research has come from multiple sources, including the National Institute of Mental Health (MH00567, MH19734, MH43270, MH48165, MH51361), the National Institute on Drug Abuse (DA05347), the Bureau of Maternal and Child Health (MCJ-109572), the National Institute on Aging (R01AG043599-01A1), he MacArthur Foundation Research Network on Successful Adolescent Development among Youth in High-Risk Settings, the Iowa Agriculture and Home Economics Experiment Station (Project No. 3320), and the Spencer Foundation. Last, but certainly not least, we greatly appreciate the encouragement and support of our spouses and families for this effort.

References

Berscheid, E., & Ammazzalorso, H. (2001). Emotional experience in close relationships. In G. J. Fletcher & M. S. Clark (Eds.), *Blackwell Handbook of Social Psychology: Interpersonal Process* (pp. 308-330). Malden, MA: Blackwell.

Conger, R. D., Rueter, M. A., Elder, G. H., Jr. (1999). Couple resilience to economic pressure. *Journal of Personality and Social Psychology, 76*(1), 54–71. https://doi.org/10.1037/0022-3514.76.1.54

Masarik, A. S., & Conger, R. D. (2017). Stress and child development: A review of the Family Stress Model. *Current opinion in psychology*, *13*, 85-90.Elder, G. H., Jr., & Giele, J. Z. (2009). Life course studies: An evolving field. In G. H. Elder, Jr. & J. Z. Giele (Eds.), *The craft of life course research* (pp. 1–24). Guilford Press.

Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, *46*(2), 205–219. https://doi.org/10.1177/002214650504600206

FOREWORD

BY JUHA HÄMÄLÄINEN

Already in the 19th century, it was possible to conclude from statistics on illness and living conditions that morbidity is more abundant in lower social groups than in higher ones. The statistical connection of social conditions to health was obvious. In today's statistics, the diseases caused by high living conditions have affected the overall picture, but the connection is still unanswerable.

This book examines the multi-threaded connection of family financial adversity to health and well-being from a longitudinal perspective. In a comprehensive life-course review, the complexity of the biopsychosocial mechanisms of health risks is illuminated. Specifically, long-term connections are of interest

The focus of the examination is on physical health and well-being, while individual life-style choices and behavior descriptors act as mediating components explaining the connection between family financial distress and health and well-being risks. The author presents empirical evidence of these connections based on previous studies, focusing on micro-social relations.

In general, the basic idea of the book is to comprehensively describe the mechanisms that explain the connection between family economic adversities and health and well-being deficits during the life course. The mechanisms of connections appear as a spectrum of numerous individual factors. Space is also given to the perspective of preventive and protective mechanisms.

Mechanisms are vividly and aptly called pathways, consisting of various factor combinations that shape the life of individuals and families. An interesting aspect is the examination of the shared destiny of spouses living in a long-term relationship. This spouse relationship perspective properly complements the complex overall picture of the dynamics of connections.

The book at hand offers the reader an accomplished, fine-grained, versatile and relatively comprehensive exploration of the connection between the

family's financial hardships and health and well-being. The work is written primarily for the academic research community. Its structure is clear and the way the topic is handled is sufficiently common sense even for a wider readership.

Juha Hämäläinen
Professor Emeritus
University of Eastern Finland

FOREWORD

BY PETER MARTIN

It has been said that money is not everything, but this is easy to say when you do not need to worry about regularly paying bills. Economic adversity is a daily, weekly, or monthly reality for many people. Struggling to pay expenses or running up credit card debt is one of the most chronic stressors people can experience, and for some, this is a reality that does not diminish over the life cycle. As the term suggests, family economic adversity affects the entire family system. Husbands and wives may be frustrated with low incomes and high expenses, which can inadvertently lead to stress among spouses. Children can be affected as they sense the adversity directly and indirectly, and other family members may be asked to help. Family members are "linked together" and each family member may pay the consequences in physical health and well-being changes. The effect may result in acute and chronic diseases, and the psychological results may include depressive symptoms and loneliness. Social consequences may include divorce, abuse, and loss of friendships. In economic up- and downturns, researchers and practitioners need to pay attention to economic challenges, and a broad framework is needed to cover all relevant components.

Only some scholars in our field can effectively combine theoretical frameworks, sophisticated data analysis, and interdisciplinary content. This stimulating volume, covering a variety of conceptual models and using data from the comprehensive Iowa Youth and Families Project (IYFP), is a rare exception in integrating thoughtful hypotheses with straightforward results and meaningful implications. This research started in the 1980s, when the Midwest was undergoing a severe farm crisis, and the IYFP is deeply rooted in this historical time. Having lived in the Midwest, I appreciate the focus on rural environments. We feel beauty and comfort among these rolling hills, but hidden behind Grant Wood’s American Gothic are real problems and stressors that we may want to wipe under the rug.

Few research studies assess long-term committed relationships and how partners continue to develop in parallel over time, focusing on the dyadic context. By integrating essential components of the life course approach,

good research begins with well-established theories, linking changes over time to conceptual models. A couple's parallel development highlights the importance of assessing partner models over time. We often find ourselves focusing on individuals, even in family research, when families are not simply about the sum of their members - life occurs in parallel, and it intersects across family members.

The classic marriage satisfaction or marital closeness perspective points to a U-shaped development over time: high levels of satisfaction in early marriage, low points in midlife, and increasing marital satisfaction levels in later life. Early studies assessed mean satisfaction levels in cross-sectional studies, but marriage is a story of individual and partner trajectories that often show a different picture. Rather than asking whether there is a general trend upward or downward in marital closeness, researchers should address the question of individual differences. What predicts whether couples over time are harmonious vs. conflictual, and what predicts any changes in that relationship? The answer to whether marriages are "successful" often starts with the well-known saying, "It depends."

The life course approach has traditionally focused on family economic adversity, and this is an important "driving force" of developmental changes over time. These changes can be very complex, and sound methodology is now available to look at relevant pathways, including latent growth curves that characterize individual trajectories of adaptation to adversity. Growth mixture models highlight critical interindividual differences in intraindividual change, or as perhaps is now more commonly labeled as a within-person change in the context of between-person differences. Differences and changes are essential components of human development, and by assessing them simultaneously, a more nuanced picture of human development emerges. Predictors of marital satisfaction also include individual characteristics, such as personality. It is more challenging to live with a partner who is depressed, anxious, or worried or with a partner who is not very conscientious and who is somewhat disagreeable.

The family stress model is the starting model Wickrama's team used. They have carried the model further to emphasize alternative pathways explaining health and well-being across the life span. The material constraint pathway assesses housing instability and food insecurity. The physiological mediating process includes important biological components, such as cardiovascular functioning, the metabolic system, and inflammation. To highlight biopsychosocial models, the integration of the psychological response pathway includes chronic and acute stressors and responses to these

stressors that can be additive or multiplicative. The behavioral response pathway includes the role of health behaviors in explaining physical health and well-being. The psychosocial resources pathway outlines the importance of self-control, mastery, and close relationships to mitigate the noxious effect of economic hardships. As Wickrama makes clear, these competing models explain physical health and well-being separately and jointly.

There is much to be learned about family functioning in the context of adversity, and I wonder how policymakers would ponder this research's implications and future directions. How could a more significant population segment obtain and benefit from economic resources? Can we find ways in which families avoid being exposed to chronic adversity, and how would we build a strong family and social support system that buffers the effect of stress? These are the questions we will be asking for a long time.

Peter Martin, PhD
University Professor of Human Development and Family Studies
Iowa State University
United States

CHAPTER 1

INTRODUCTION

The primary objective of this book is to present an integrative organizing framework that explains social inequality and variability in physical health and well-being outcomes in later years, particularly for couples in long-term committed relationships by incorporating the concepts of dependency and transactional influences that exist between romantic partners over time. This framework allows for an understanding of the influence of family economic adversity (FEA) on physical health and well-being outcomes over the life course, accounting for numerous mechanism pathways responsible for this linkage. This framework can be used in future research to develop testable dyadic longitudinal models exploring links between FEA and couple members' later-life physical health and well-being outcomes.

Rather than comprehensively reviewing previous studies that are relevant to each pathway mechanism, this book provides an *overall summary* of key findings drawing from select empirical studies to support the proposed pathways from FEA to physical health and well-being outcomes in later years (middle and older years, >45 years). As such, this is not a typical systematic review of research but rather an illustrative nonsystematic review. Relevant theories and theoretical research are also incorporated to support the proposed framework.

Selection of Studies

The incorporated empirical studies primarily draw from the Later Adulthood Study (LAS) study (principal investigators: Conger, Lorenz, and Wickrama), which provided data from couples in enduring marriages over three decades (1989–2017). The LAS provided a rich archive with prospective, longitudinal biopsychosocial and behavioral data from husbands and wives (details found in Appendix 1). Findings from the LAS are supplemented by results from other relevant empirical articles to ensure sufficient evidence for the proposed pathways and associations.

These supplementary articles were identified through searches of pertinent databases, including APA PsycNet and Google Scholar, using the key terms from the pathways (e.g., "economic hardship," "financial strain," "economic pressure," "mental health," "physical health," "polygenic scores," "biomarkers," "middle years," and "later years"). Emphasis was placed on articles published after 2000, although foundational and well-cited research articles published prior to 2000 were also incorporated. Supplementary articles were screened for eligibility based on location: Studies needed to be in the European and North American contexts because the proposed associations may differ by cultural, geographical, and historical contexts.

Theoretical Principles Integrated in the Organizing Framework

The proposed integrative organizing framework conceptualizes health and well-being as a life course cumulative process (Elder et al., 2003; Elder & Giele, 2009). Midlevel theories, such as cumulative advantage/disadvantage theory (Dannefer, 2003), stress process theory (Pearlin et al., 2005) and stress appraisal theory (Lazarus & Folkman, 1984), are also incorporated.

The principles of the *life course theory* (Elder et al., 2003; Elder & Giele, 2009) as applied to health development are depicted in Figure 1.1. The figure introduces several important concepts for depicting how an individual's socioeconomic context combines with historical place and time as well as their life stage to shape their life experiences and health development across the life course. Furthermore, life course theory posits that health development is not limited to a single life stage. That is, later-life experiences are a product of an individual's experiences at previous life stages; life is a chain of events and circumstances stemming from multiple distal and proximal factors at various levels, including individual, relational, and broader contextual factors. These chains of events are often termed (and can be statistically modeled as) trajectories of continuity and change over time (Elder & Giele, 2009).

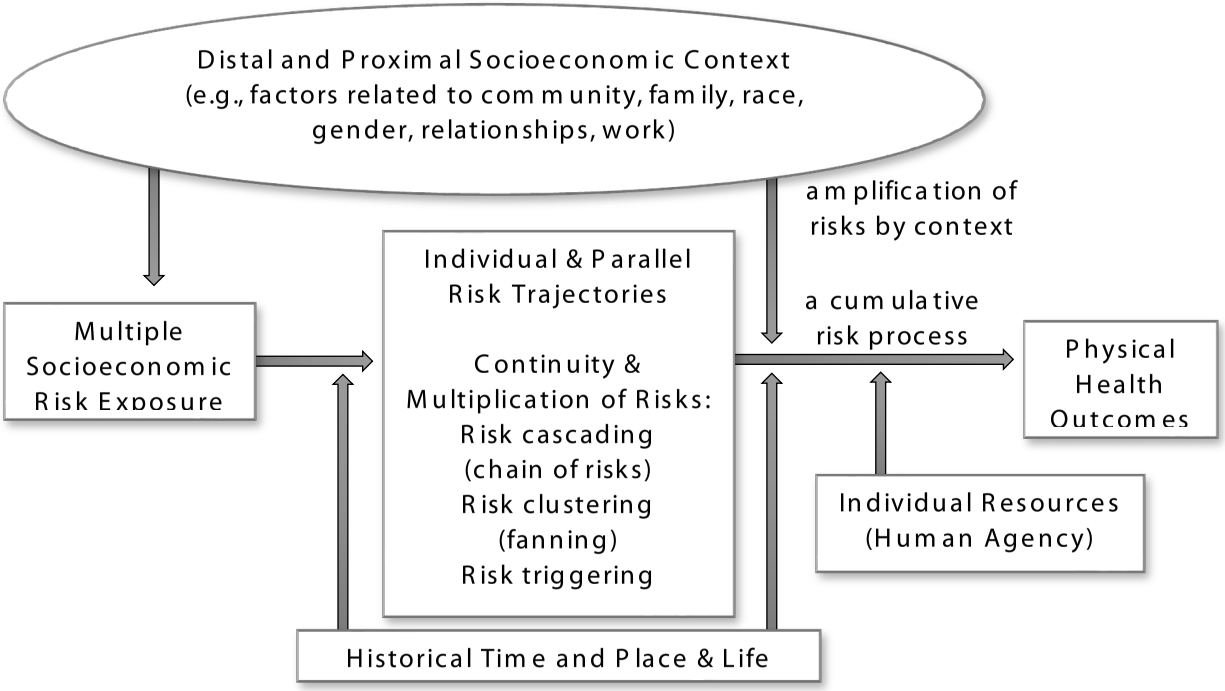

Figure 1.1. Life Course Theoretical Perspective for Health Development

In particular, life course theory contends that distal and proximal socioeconomic contexts influence life experiences that include, or generate, health risks. Health risks may continue over time or multiply (e.g., risk cascades, clusters, or triggers) (Wickrama et al., 2024). Moreover, life experiences such as FEA also impact the provision of resources and individuals' agency to make their own choices.

Consistent with the *cumulative advantage/disadvantage theory* (Dannefer, 2003; DiPrete & Eirich, 2006), multiple risks or risk trajectories can combine to form a *cumulative health risk process* over the life course. These cumulative risk processes are formed through the interplay of multiple mechanisms and can lead to health inequalities in later years. These mechanisms may include parallel and interlocking risk trajectories, reciprocal influences between risks, and the independent additive health influences of multiple risks (which will be discussed in further detail in later sections and chapters). These processes may be modified by historical place and time and by life stage, as well as by individual characteristics (human agency).

Principles of the *stress process theory* for health development (Pearlin et al., 2005) are depicted in Figure 1.2. The stress process theory asserts that social conditions—such as chronic and acute economic hardship, unemployment, stressful life events, and discrimination (which are considered proximal and distal socioeconomic contexts in the life course theory)—act as stressors (termed *primary stress exposure*). Furthermore, as in the life course theory, this theory also contends that primary stress exposures can increase risk for additional related stressors (termed *secondary stressors*). Some social conditions are ascribed to individuals largely from birth but are influential across the life course. Examples of ascribed social conditions include race/ethnicity, immigration status, socioeconomic status (SES) of the family of origin, and related early socioeconomic adversities. As in the life course theory, stress process theory explains that one's exposure to and the duration of these stressors influence the likelihood of change in individuals' risks and available resources, thereby influencing physical health and well-being outcomes in later life, even after accounting for life experiences during the adult years (Moody-Ayers et al., 2007; Wickrama et al., 2013). Notably, the stress process theory highlights the psychosocial resources that can aid individuals in coping with stressors, thereby modifying—or moderating—the impact of stressors on physical health and well-being outcomes.

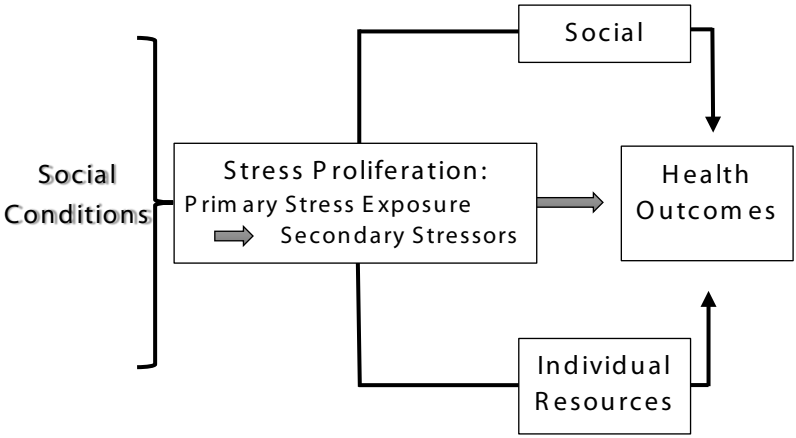

Figure 1.2. Stress Process Theory for Health

The *stress appraisal theory* (Lazarus & Folkman, 1984) contends that individuals subjectively evaluate stressors to which they are exposed based on their cognitive resources/vulnerabilities and previous experiences. That is, according to appraisal theory, it is not the stressor itself but, rather, what one thinks about the situation (perception) that determines the psychophysiological effects that result from the experience.

The theoretical alliance of the life course theory (Elder et al., 2003; Elder & Giele, 2009), stress process theory (Pearlin et al., 2005), and the stress appraisal theory (Lazarus & Folkman, 1984), as well as other midlevel theories such as the cumulative advantage/disadvantage theory (DiPrete at al., 2006), is further advanced in this book by incorporating the findings of biopsychosocial empirical studies. Together, the integrated life course perspective and integrative organizing framework described here form a multidisciplinary approach to understanding the physical health and well-being outcomes of individuals and health inequalities over the life course. Social epidemiologists and developmental, social, and behavioral scientists widely employ such integrated life course approaches to understand and gain insight into health development processes and health inequalities over a person's life course (Moody-Ayers et al., 2007; Settersten, 2003; Stowe & Cooney, 2015).

Furthermore, this framework can be considered an alliance of the developmental and structural life course perspectives (Jones et al., 2019).

While the developmental life course perspective emphasizes the intersection of the social patterning of risk exposures and the sensitive life stages that shape subsequent risk and health processes, the structural life course perspective stresses the disproportionate allocation of risks and resources to individuals depending on the social patterning that shapes their health processes (Jones et al., 2019). Although both developmental and structural life course approaches are useful for understanding health development over any period of a person's life course, the developmental life course perspective is particularly relevant for understanding health development over the first half of the life course, when there are rapid changes during early life stages such as infancy, childhood, and adolescence. In contrast, the structural life course approach is more relevant for understanding health development processes during the adult and later years, which encompass changes in the proximal socioeconomic environments, such as those in family and close relationships, work conditions, and retirement.

As a foundation for the content in subsequent chapters, important concepts and tenets of the integrated life course perspective involving the life course cumulative health process are presented here in list format.

1. The "life course" is a **lifelong phenomenon**. That is, health development is not limited to a single life stage. Instead, it is a process that unfolds across the life course, leading to heterogeneity (and inequities) in individuals' physical health and well-being outcomes in later life. Thus, a long-term view is required when conceptualizing and investigating health in later life. For example, socioeconomic adversity, which is largely ascribed in childhood and includes parents' education and family income, is often related to other contexts such as minority racial/ethnic status and helps shape mental and physical heath trajectories even in later years (Wickrama et al., 2013).
2. **Social conditions** (emphasized in stress process theory) **and socioeconomic context** (emphasized in life course theory) refer to characteristics related to socioeconomic status (e.g., income, economic hardship, social class, work, community, race, and gender) that determine the availability of resources and constraints that persistently influence an individual's physical health and well-being outcomes over the life course. For example, divorce often limits the availability of health insurance for women, inhibiting their access to medical care and threatening their physical health (Lavelle et al., 2012).

3. The concept of **timing** or **critical period(s)** emphasizes the importance of the developmental period or stage to an individual. For example, the adverse impact of FEA on an individual may vary depending on their age or life stage, with differential effects of adversity experienced in childhood, adolescence, or adulthood. As another example, Elder et al. (1994) showed that the socioeconomic benefits of serving in the military during World War II differed depending on the age at which an individual joined the military.
4. Individuals' lives are situated within **historical times** and **places** that influence the health process through their impact on available resources as well as the constraints they place on individuals' life experiences. For example, in the United States, the majority of older adults today are members of the baby boomer cohort, named for its large size in comparison to previous generations. The range of conditions, resources, and constraints experienced varies by cohort. Furthermore, among the baby boomer cohort, many who lived in the rural Midwest (historical place) experienced the rural farming crisis of the late 1980s (historical time), which determined their access to particular resources and constraints. Such individuals may have social trajectories (e.g., relational, work, and economic experiences over time) that vary from earlier and later cohorts and even from members of their own cohort who were not located in areas affected by the farm crisis (Conger et al., 1994; Lorenz et al., 2000). In turn, these distinct social trajectories may result in different health and well-being trajectories.
5. **Intraindividual trajectories** or **pathways** refer to changes in life experiences over an individual's life course. Life experiences can include biological, psychological, social, and behavioral health risks (termed *biopsychosocial and behavioral health risks*). The trajectories of biopsychosocial and behavioral health risks are often characterized by both continuity (stability) and change over time and acknowledge that individual life stages are connected such that change is a lifelong, continuous process (rather than a series of disconnected, unrelated stages). In particular, the concept of trajectories recognizes that later-life experiences, including health, represent a "snapshot" of a single time point that is part of a continuous trajectory of an individual's experience over time. Risk trajectories (e.g., trajectories of depressive symptoms) can decline, incline, or remain stable over time (Wickrama et al., 2016).
6. The influences of multiple health risks may build up through a **cumulative process** over the life course, leading to inequalities in

physical health and well-being outcomes in later years. This cumulative process may entail several mechanisms.

a. Continuous exposure (duration or chronicity) to the same risk over the life course may lead to the accumulation of physiological responses (known as *weathering*; Geronimus et al., 2006) and, ultimately, to adverse physical health and well-being outcomes. For example, an earlier level of depressive symptoms may exert an impact on later levels of depressive symptoms (lagged effect or continuity), potentially producing exponential trajectories.
b. As noted earlier, *risk trajectories* (e.g., depressive symptoms) can be affected by social conditions. Such trajectories can take a "fan" shape, as captured in the idea that the "rich get richer, and the poor get poorer," so that those with "resource-rich" social conditions experience increasingly positive outcomes while those with "resource-poor" conditions experience increasingly negative outcomes. In the example of depressive symptoms, those with increasing trajectories may experience exponential growth in depressive symptoms, while those with recovering trajectories may experience a faster recovery following an episode of depressive symptoms. Such trajectories can be interpreted as interactions between risk exposure and time that produce inequality in depressive symptoms and health outcomes in later years.
c. Earlier events and experiences in one domain can be consequential for later events and consequences in another domain. For example, marital quality trajectories may be associated with subsequent trajectories of physical complaints, thus forming *associated trajectories* (Robles, 2014; Wickrama et al., 1997). This example illustrates how trajectories of stressful experiences may become embedded and impact subsequent trajectories of physical health risks as measured by multiple biomarkers and, ultimately, level of disease (e.g., Arbeev et al., 2019).
d. Similarly, parallel changes may occur between social experiences and developmental attributes (*parallel trajectories*). For example, previous studies have shown that anxiety symptom trajectories are influenced by work insecurity trajectories, reflecting cascading trajectories of changes in work conditions and mental health (Wickrama et al., 2018). The concept of *interlocking trajectories* recognizes that trajectories of life experiences/risks (e.g., work insecurity and depressive symptoms) are interconnected within an individual (Wickrama et al., 2016). That is, the trajectories in

different domains or between spouses "interlock" because they are associated with one another. Interlocking risk trajectories may contribute to the cumulative health process through mutually reinforcing influences between these trajectories.

e. The impact of prior life events/circumstance may proliferate over the life course (i.e., *risk/stress proliferation*). For example, earlier stressful life events (e.g., family economic problems) may influence the occurrence of more severe stressful life events over time, likely through social selection (e.g., divorce).
f. Earlier health risks may multiply, producing multiple risks simultaneously (termed *risk clustering* or *triggering*). Each risk exposure may have an independent additive adverse effect on subsequent physical health and well-being outcomes.

7. The concept of **linked lives** emphasizes the interdependence of individuals in close relationships, with marital relationships as a primary example. Interlocking trajectories (a type of parallel trajectory) between spouses may be attributed to linked lives. Just as partners' daily life activities are intertwined, so too are their life/risk trajectories (e.g., *stress transfer*; Milkie, 2010). Moreover, couples' shared life trajectories represent experiences that are common to both partners, such as FEA (Elder et al., 2003; Stowe & Cooney, 2015). For example, previous studies have shown that individuals' depressive symptom trajectories are influenced by their partner's depressive symptom trajectories as well as by the couple's shared experiences of economic hardship over time (Kiecolt-Glaser & Wilson, 2017; Wickrama, King, et al., 2019). Such influences are not limited to depressive symptoms. In fact, research has provided evidence of similar mutual influences for physical health risks, such as spouses' body mass index (BMI) and physical complaints over the life course (Cobb et al., 2016; Kiecolt-Glaser & Wilson, 2017; Ledermann & Kenny, 2012; Wickrama, O'Neal, et al., 2019). These mutual influences may operate, at least in part, through the provision (or lack) of social and emotional resources.
8. The concept of **human agency** emphasizes that an individual's personal characteristics (resources and vulnerabilities) may generate resilience or vulnerability to stress and risk exposure. That is, the life course perspective recognizes that individuals are not solely a product of their context. Instead, individuals make decisions and choices. Both positive characteristics (e.g., positive affect, mastery, self-regulation, self-esteem) and negative characteristics (e.g., neuroticism, hostility) play roles in the life choices individuals make

and, in turn, affect individuals' life experiences and trajectories over time. Studies have shown that individual choices/decisions can shape and even alter developmental trajectories. For example, early choices related to work, marriage, and parenthood have been shown to influence youth developmental outcomes (Koball et al., 2010; Lee et al., 2018). Later in life, decisions often drive major life changes, such as divorce, remarriage, relocation, and timing of retirement. While these transitions can be shaped by structural constraints, individuals often retain some level of decision-making authority. These decisions have been shown to influence older adults' health and well-being trajectories (Settersten, 2003). Similarly, as depicted in Figure 1.2, stress process theory considers psychosocial resources/vulnerabilities as coping resources that can moderate the associations between stress or risk exposure and health outcomes. That is, coping and social support can mitigate or exaggerate the health impacts of stressors/risks. In addition, genetic disposition can also be considered as an individual characteristic that can moderate these associations.

Introducing the Integrative Framework

The proposed integrative framework of family economic adversity and health (FEAH) presented in Figure 1.3 takes a long view of the life course in detailing how early FEA can come to exert a persistent influence on physical health and the multiple health risks involved as mechanisms or pathways. FEA can proliferate to create health risks in different domains throughout the middle years and during the transition to the later years.

The FEAH framework highlights five risk domains that operate as mediating pathways linking FEA and later-life physical health and well-being. These domains are the material, physiological, psychological, behavioral, and resource depletion pathways. Each domain comprises multiple specific risks that may be involved. For example, in the material risk domain, poor housing and insufficient intake of proper food are mechanisms linking FEA to physical health in later years (Palacios et al., 2021). Moreover, consistent with the notion of cumulative advantage/disadvantage (Dannefer, 2003; DiPrete & Eirich, 2006), risks within and between domains can proliferate (or snowball) to shape an individual's physical health and well-being outcomes in later years. Importantly, these mediating pathways involve not only the initial level but also changes over time (i.e., trajectories).

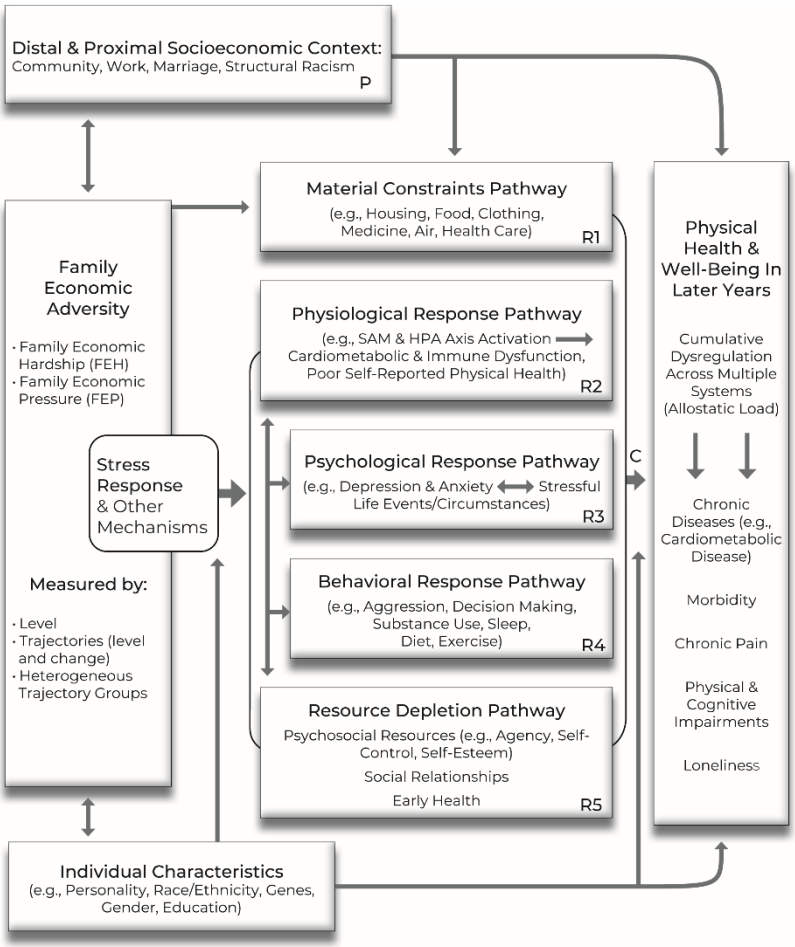

Figure 1.3 A Life Course Integrative Framework of Family Economic Adversity and Later-Life Physical Health (FEAH)

Proliferated risks or risk trajectories within a domain or across domains may accrue independently and jointly (e.g., R1 + R2 or R1 × R2) to form cumulative health risks. Vertical lines with arrows on each end depict interpathway associations. These interpathway associations are largely bidirectional, cross-domain associations. Furthermore, the influence of early and/or chronic FEA on physical health and well-being may increase across the middle years, representing an interaction between FEA and time

that can produce escalating trajectories of risks and contribute to the cumulative process. The cumulative nature of these health risk trajectories may play an important role in life course health processes, leading to inequality in physical health and well-being outcomes in later years.

The psychological response pathway includes an intermediate process of stress proliferation, with FEA often producing secondary stressors such as stressful life events that, in turn, are linked to psychological mediating health risks. For example, economic adversity often leads to additional stressful life events (SLEs) that result in depressive symptoms and, consequently, poor health.

Furthermore, as depicted in Figure 1.4, and consistent with the "linked lives" notion, the response pathways leading to later-life physical health and well-being must be considered in a dyadic context for individuals in long-term romantic relationships. The dyadic component of this model is described in Chapter 9 and includes intraindividual actor effects as well as interindividual partner effects between spouses' effects and the couple's common fate effects.

The FEAH framework also acknowledges the direct and moderating influences of distal and proximal socioeconomic contexts, considering experiences like community adversity and also ascribed socioeconomic characteristics (e.g., structural racism), as well as other proximal contexts (e.g., community relationships) more broadly.

Physical health and well-being outcomes are conceptualized broadly to include the level of allostatic load, chronic diseases (e.g., cardiovascular and metabolic disease), morbidity, chronic pain, physical and cognitive impairment, and loneliness. Self-reported physical health (SRH) is included as a physiological mediator as SRH provides important overall information regarding inflammatory status beyond traditional objective risk factors, even among generally healthy individuals (Christian et al., 2011). Furthermore, studies have shown that FEA influences health-related quality of life, indicated by the physical health complaints, such as physical limitations, that shape health perceptions (Phyo et al., 2022).

Although not depicted in Figure 1.3, reverse causal influences may exist, forming reciprocities between FEA and mediating attributes. For example, health-risk behaviors such as smoking and alcohol consumption have been shown to exacerbate poverty in low-income households (Nyakutsikwa et al., 2021). Similarly, mediating attributes may reciprocally influence each

other. For instance, physiological (e.g., BMI) and psychological response pathways (e.g., depressive symptoms) are reciprocally associated. Individuals with a higher BMI often report more depressive symptoms; meanwhile, depressive symptoms are also known to lead to increased BMI (Farmer et al., 2008; Kivimaki et al., 2009).

The vertical arrows in Figure 1.3 depict how socioeconomic context (e.g., community), individual characteristics (e.g., education, race/ethnicity, genes), and psychosocial resources can alter additive associations among FEA, risk domains, and physical health and well-being outcomes. All of these depicted associations may combine to produce a sequentially contingent life course cumulative process stemming from FEA and leading to later-life physical health inequalities.

Some Methodological Considerations

The remaining chapters discuss each risk domain mediator in more detail and with supporting empirical evidence. More specifically, support is drawn from studies utilizing one of three common methodological approaches: (a) path analysis studies investigating the *level* of the mediating attribute (Wickrama, Lee, et al., 2019); (b) latent growth curves investigating *trajectories* of the mediating attribute (Wickrama et al., 2006); and (c) heterogenous trajectory groups based on the mediating attribute over time (Wickrama et al., 2021). For analytical details, see Lee and colleagues (2021). In the case of trajectories, FEA is examined in association with the level (severity) and also the subsequent change (deteriorations or improvements) in the mediating attribute over an extended period. When interpreting these analyses, if FEA is related to *change* in the attribute over time (beyond the level), there is evidence that the impact of economic adversity increases with age (i.e., time). We will incorporate these methodological considerations when discussing each response pathway in the next several chapters.

Conclusion

This chapter introduces an integrative organizing framework that allows for an understanding of the influence of FEA on physical health and well-being outcomes over the life course, accounting for numerous mechanism pathways responsible for this linkage. The proposed FEAH framework takes a long view of the life course and considers the multiple health risks involved as mechanisms or pathways. More specifically, the FEAH

framework highlights five risk domains that operate as mediating pathways and their varying combinations, i.e., the material, physiological, psychological, behavioral, and resource depletion pathways.

References

Arbeev, K. G., Ukraintseva, S. V., Bagley, O., Zhbannikov, I. Y., Cohen, A. A., Kulminski, A. M., & Yashin, A. I. (2019). "Physiological dysregulation" as a promising measure of robustness and resilience in studies of aging and a new indicator of preclinical disease. *The Journals of Gerontology: Series A, 74*(4), 462–468. https://doi.org/10.1093/gerona/gly136

Christian, L. M., Glaser, R., Porter, K., Malarkey, W. B., Beversdorf, D., & Kiecolt-Glaser, J. K. (2011). Poorer self-rated health is associated with elevated inflammatory markers among older adults. *Psychoneuroendocrinology, 36*(10), 1495–1504. https://doi.org/10.1016/j.psyneuen.2011.04.003

Cobb, L. K., McAdams-DeMarco, M. A., Gudzune, K. A., Anderson, C. A. M., Demerath, E., Woodward, M., Selvin, E., Coresh, J. (2016). Changes in body mass index and obesity risk in married couples over 25 years: The ARIC cohort study. *American Journal of Epidemiology, 183*(5), 435–443. https://doi.org/10.1093/aje/kwv112

Conger, R. D., Elder, G. H. Jr., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1994). *Families in troubled times: Adapting to change in rural America*. (R. D. Conger, Ed.). Aldine de Gruyter.

Dannefer, D. (2003). Cumulative advantage/disadvantage and the life course: Cross-fertilizing age and social science theory. *The Journals of Gerontology: Series B, 58*(6), S327–S337. https://doi.org/10.1093/geronb/58.6.S327

DiPrete, T. A., & Eirich, G. M. (2006). Cumulative advantage as a mechanism for inequality: A review of theoretical and empirical developments. *Annual Review of Sociology, 32*, 271–297. https://doi.org/10.1146/annurev.soc.32.061604.123127

Elder, G. H., Jr., & Giele, J. Z. (2009). Life course studies: An evolving field. In G. H. Elder, Jr. & J. Z. Giele (Eds.), *The craft of life course research* (pp. 1–24). Guilford Press.

Elder, G. H., Jr., Johnson, M. K., & Crosnoe, R. (2003). The emergence and development of life course theory. In J. T. Mortimer & M. J. Shanahan (Eds.), *Handbook of the life course* (pp. 3–19). Kluwer.

Elder, G. H., Jr., Shanahan, M. J., & Clipp, E. C. (1994). When war comes to men's lives: Life-course patterns in family, work, and health.

Psychology and Aging, 9(1), 5–16. https://doi.org/10.1037//0882-7974.9.1.5

Farmer, A., Korszun, A., Owen, M. J., Craddock, N., Jones, L., Jones, I., Gray, J., Williamson, R. J., & McGuffin, P. (2008). Medical disorders in people with recurrent depression. *British Journal of Psychiatry, 192*(5), 351–355. https://doi.org/10.1192/bjp.bp.107.038380

Geronimus, A. T., Hicken, M., Keene, D., & Bound, J. (2006). "Weathering" and age patterns of allostatic load scores among Blacks and Whites in the United States. *American Journal of Public Health, 96*(5), 826–833. https://doi.org/10.2105/AJPH.2004.060749

Jones, N. L., Gilman, S. E., Cheng, T. L., Drury, S. S., Hill, C. V., & Geronimus, A. T. (2019). Life course approaches to the causes of health disparities. *American Journal of Public Health, 109*(S1), S48–S55. https://doi.org/10.2105/AJPH.2018.304738

Kiecolt-Glaser, J. K., & Wilson, S. J. (2017). Lovesick: How couples' relationships influence health. *Annual Review of Clinical Psychology, 13*(1), 421–443. https://doi.org/10.1146/annurev-clinpsy-032816-045111

Kivimaki, M., Lawlor, D. A., Singh-Manoux, A., Batty, G. D., Ferrie, J. E., Shipley, M. J., Nabi, H., Sabia, S., Marmot, M. G., & Jokela, M. (2009). Common mental disorder and obesity: Insight from four repeat measures over 19 years: Prospective Whitehall II cohort study. *British Medical Journal, 339*, Article b3765. https://doi.org/10.1136/bmj.b3765

Koball, H. L., Moiduddin, E., Henderson, J., Goesling, B., & Besculides, M. (2010). What do we know about the link between marriage and health? *Journal of Family Issues*, *31*(8), 1019-1040. https://doi.org/10.1177/0192513X10365834

Lavelle, B., Lorenz, F. O., & Wickrama, K. A. S. (2012). What explains divorced women's poorer health? The mediating role of health insurance and access to health care in a rural Iowan sample. *Rural Sociology, 77*(4), 601–625. https://doi.org/10.1111/j.1549-0831.2012.00091.x

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

Ledermann, T., & Kenny, D. A. (2012). The common fate model for dyadic data: Variations of a theoretically important but underutilized model. *Journal of Family Psychology, 26*(1), 140–148. https://doi.org/10.1037/a0026624

Lee, T. K., Wickrama, K. A. S., & O'Neal, C. W. (2021). Modeling longitudinal dyadic processes in family research. *Journal of Family Psychology, 35*(7), 994–1006. https://doi.org/10.1037/fam0000862

Lee, T. K., Wickrama, K. A. S., O'Neal, C. W., & Prado, G. (2018). Identifying diverse life transition patterns from adolescence to young adulthood: The influence of early socioeconomic context. *Social Science Research, 70*, 212–228. https://doi.org/10.1016/j.ssresearch.2017.12.001

Lorenz, F. O., Elder, G. H., Jr., Bao, W. N., Wickrama, K. A. S., & Conger, R. D. (2000). After farming: Emotional health trajectories of farm, nonfarm, and displaced farm couples. *Rural Sociology, 65*(1), 50–71. https://doi.org/10.1111/j.1549-0831.2000.tb00342.x

Milkie, M. A. (2010). The stress process model: Some family-level considerations. In W. R. Avison, C. S. Aneshense, S. Schieman, & B. Wheaton (Eds.), *Advances in the conceptualization of the stress process* (pp. 93–108). Springer.

Moody-Ayers, S., Lindquist, K., Sen, S., & Covinsky, K. E. (2007). Childhood social and economic well-being and health in older age. *American Journal of Epidemiology, 166*(9), 1059–1067. https://doi.org/10.1093/aje/kwm185

Nyakutsikwa, B., Britton, J., & Langley, T. (2021). The effect of tobacco and alcohol consumption on poverty in the United Kingdom. *Addiction, 116*(1), 150–158. https://doi.org/10.1111/add.15096

Palacios, J., Eichholtz, P., Kok, N., & Aydin, E. (2021). The impact of housing conditions on health outcomes. *Real Estate Economics, 49*(4), 1172–1200. https://doi.org/10.1111/1540-6229.12317

Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, *46*(2), 205–219. https://doi.org/10.1177/002214650504600206

Phyo, A. Z. Z., Gonzalez-Chica, D. A., Socks, N. P., Woods, R. L., Fisher, J., Tran, T., Owen, A. J., Ward, S. A., Britt, C. J., Ryan, J., & Freak-Poli, R. (2022). Impact of economic factors, social health and stressful life events on physical health-related quality of life trajectories in older Australians. *Quality of Life Research, 31*, 1321–1333. https://doi.org/10.1007/s11136-021-03021-x

Robles, T. F. (2014). Marital quality and health: Implications for marriage in the 21st century. *Current Directions in Psychological Science, 23*(6), 427–432. https://doi.org/10.1177/0963721414549043

Settersten, R. A. (2003). *Propositions and controversies in life-course scholarship.* In R. A. Settersen (Ed.), *Invitation to the life course: Toward new understandings of later life* (pp. 15–45). Baywood.