Introduction


Abstract

Social and behavioral scientists have long been interested in cumulative, life course processes. This chapter reviews prototypical questions and methods from the life span approach in psychology as well as the life course approach in sociology. Their relevance for understanding the unfolding lives of those who suffer from skin disorders is then considered. Key themes extracted from these approaches are how skin disease impacts life course development, how skin disorders influence personal agency and social networks, whether the historical context surrounding dermatological disease is changing, how accumulation processes occur over time, and the need to consider multiple life pathways, involving both profiles of vulnerability and resilience.

The thematic focus of this volume, cumulative life course impairment, signals interest in examining long-term processes in dermatological disease. A key central issue is how skin disorders play out over time – Do they become progressively worse as individuals age? If yes, for which types of disorders and what subgroups of individuals are adverse effects of skin disorders compounded over time, and what is the specific nature of their ever more debilitating effects, for example, on functional capacities and quality of life? Understanding the mechanisms and processes that contribute to such cumulative impairment is of central importance. Not to be neglected, however, is a counterpoint question, namely for whom do the symptoms and sequelae of dermatological disease fade with aging, and again how and why? The purpose of the present chapter is to examine some of these issues, although the larger objective is to address what it means to embrace a long-term perspective in studying and treating skin disorders.

My vantage point is that of a social behavioral scientist with little prior involvement in research or practice in dermatological disease. Drawing on my prior training and
experience in studying development from early adulthood through later life, my first objective is to describe the background and objectives of life span and life course approaches, as they evolved in the social sciences. I will distil prototypical questions following from these formulations and provide brief commentary on related methodological concerns and strategies employed in long-term longitudinal research. Cumulative adversity and cumulative advantage constitute key queries within these approaches, especially among sociologically oriented life course researchers. Such questions are directly pertinent to this volume and thus how they have been examined in the social sciences will be briefly noted. Many other guiding questions and themes have been embraced by life span and life course approaches. These will also be considered as some pose potentially fruitful directions for research and clinical practice in dermatological disease.

The first section below provides a brief historical overview of the life-span perspective in psychology. It is followed by examination of the life course perspective in sociology. Building on these background summaries, I extract key themes and consider their relevance for understanding the unfolding lives of those who suffer from skin disorders. For illustrative purposes, research outside of psychodermatology focused on tracking the long-term consequences of other forms of adversity (e.g. economic hardship, cancer, parenting a child with a disability) is also noted. These seemingly diverse topics are, at a higher level of abstraction, in pursuit of something similar – namely deeper understanding of how difficult life challenges progressively undermine, for some, effective functioning over time. Because I bring longstanding interest in the topic of resilience, also addressed are protective resources that come into play for others, which enable them to evade cumulative impairment.

Taking the Long View in the Social Sciences

Life Span Approach in Psychology

Life span developmental psychology was launched by Baltes in the 1970s [1, 2]. He traced the perspective to distant historical precursors, such as the writings of Tetens [3], Carus [4], and Quetelet [5], who in different but overlapping ways emphasized the need to describe and explicate ontogenetic (age-related) change from birth to death. Although developmental psychology [6, 7] was well underway at the time Baltes launched the life span approach, traditional development approaches had more delimited objectives, namely to specify functional relationships between time and biological or behavioral attributes from infancy through childhood and adolescence. A central message of the life span approach was that developmental change continued to occur throughout life. In short, those interested in studying development should not restrict their work to the first two decades of life.

From the start, vexing questions were evident, such as how to distinguish developmental change versus any form of change. Some argued that developmental change
entailed unique characteristics, typically exemplified by stage models, as in embryonic development or cognitive development. In such models, change is seen as sequential, unidirectional, end-state oriented, and irreversible [7]. These proponents also emphasize qualitative-structural transformations across time, which were construed as largely universal. Together, such characteristics exemplified an organismic model of development, which was contrasted with the mechanistic model [8]. The latter had less formal, restrictive conceptions of developmental change. In mechanistic models, change tended to be thought of as quantitative in nature (involving increases or decreases particular attributes over time), and did not invoke sequential progressions, or explicit endpoints (i.e. mechanistic models are nonteleological).

Although life-span scholars lacked consensus about which types of change were appropriately encompassed in their approach, there was agreement that the central task was to describe within person change (intraindividual variability) over time, while being mindful of individual differences in the timing and patterning of such change. Thus, the approach was explicitly comparative. Multiple types of comparisons were relevant, including whether patterns of within person change varied across individuals of the same age, or across those from different birth cohorts or cultural contexts. A further priority of life span developmental psychology was that it should go beyond simply describing ontogenetic change and variants thereof. In addition, it should address the causal processes that prompt such change. The latter aim translated to an explicit interest in studying antecedent-consequent relationships across time. An important clarification along the way was that age, in itself, was not a causal antecedent [7]. Age, instead, was the dimension of time through which change occurred. Understanding why change occurred as people grew older required invoking other factors, be they inherent biological processes, or external environmental inputs.

From the beginning, life-span developmental psychology was strongly methodological in orientation. Clarifications were provided regarding what could and could not be learned from cross-sectional versus longitudinal research designs. More importantly, the inherent interpretive problems that accompany these designs were made explicit. For example, cross-sectional designs, which compare people of different ages at the same point in time, generate differences between age groups. Whether these effects are best attributed to maturational processes or cohort differences is frequently unclear. A classic example of misinterpreted age differences was the early claim (based on cross-sectional evidence) that cognitive abilities decline with age. Subsequent, longitudinal findings made clear that the apparent decline was actually due to cohort differences in educational attainment, not inherent biological aging. Aging adults thus showed considerable stability in cognitive abilities as they aged, although those from earlier cohorts had lower profiles linked to their limited educational attainment.

Longitudinal designs, which follow the same individuals across time and generate age changes, but they also suffer from interpretive problems. Obtained changes could
be due to maturational processes, or they could reflect time of measurement or period effects (i.e. external influences at the time of data collection). The deeper methodological difficulty stemmed from the lack of independence of the three key factors involved in any developmental research design. These included: age, which typically referred to maturational processes over time; cohort, which pertained to the ‘slice of time’ through which a person lives, indexed by his/her birth year, and period, which referred to the historical context in which data were collected (i.e. when measurements are obtained). A fundamental challenge in life span developmental research is that these three factors (age, cohort, period) are inherently confounded – when any two factors have been specified in a research design, the third is fixed (i.e. it cannot vary).

Sequential designs were thus generated to address these methodological quandaries [9, 10]. Multiple variants were included, referred to as cohort-sequential, cross-sequential, and time-sequential designs. A more intuitive and straightforward distillation was the idea of conducting multiple sequences of cross-sectional studies, or multiple sequences of longitudinal studies across time [11]. With more than one cross-sectional (or longitudinal) study, each situated at different points in time, analyses could be conducted to clarify whether obtained effects were best interpreted as maturational processes, cohort differences, or period effects.

Life span developmental psychology was developed as a field of inquiry via twelve edited volumes, published from 1978 [12] to 1994 [13]. Each was titled ‘Life-Span Development and Behavior, vol. #’ and included chapters written primarily by psychologists studying mainstream topics in their discipline (e.g. memory and cognition, perception, language, motivation and emotion, personality, sense of control, intellectual abilities, social relationships). The typical contribution examined, from a life span perspective, topics that had previously been studied primarily in infancy, childhood or adolescence. An example was the effort to extend early life formulations of attachment in infancy and childhood to adulthood [14]. Authors were encouraged to consider whether there was evidence of continued change in the phenomenon of interest across the decades of adult life, and if so, why (under what conditions? for whom? due to what antecedents?).

As the approach took hold, Baltes [15] continued to refine it by providing elaborated definitions of the family of propositions that constituted life span developmental psychology. He reiterated that the central mission was to study constancy and change in behavior from conception to death (ontogenesis), a task that included assembling knowledge about individual differences and similarities in development. New emphasis, however, was given to the modifiability of development and the conditions of individual plasticity. Such questions were of particular interest in studying adult cognitive aging – how inevitable was decline in later life cognitive performance? Could it be prevented? Under what conditions?

Other ideas advanced by Baltes [15] in his recapitulation of the life span approach were distinctions between the multidimensionality and the multidirectionality of de-
Developmental change. Illustrated with intellectual functioning, fluid versus crystallized abilities refer to different dimensions of cognitive, which in addition, show distinct profiles of age-related change (fluid abilities tend to decline with aging whereas crystallized abilities tend to be stable). A further theme was that life course changes should encompass gains and losses. That is, growth and decline were both components of what constitutes life span development. Plasticity, defined as within person modifiability of capacities, was also emphasized and illustrated with testing-the-limits research paradigms in later life intellectual functioning.

New to the formulation and closely tied to parallel advances occurring in life course sociology (see below) was the emphasis on contextualism, which meant framing development in terms of the interplay of three phenomena: age-graded influences (biological maturation and age-linked socialization through roles or competences), history-graded influences (influences from the evolutionary and biocultural contexts in which lives unfold, such as trends toward modernity), and non-normative influences (biological or environmental factors whose occurrence, patterning and sequencing does not apply to most people). Non-normative influences tended to be unpredictable and not follow a general time course.

Taken together, the later formulation of Baltes [15] was more multidisciplinary in approach. It underscored the need to attend simultaneously to what is going within the organism over time, biologically and psychologically, while also to incorporate influences that are sociological, anthropological, and historical. Reflecting on what had contributed to the burgeoning interest in life span conceptions during the 1970s and 1980s, Baltes identified three influential events. The first was population change, namely the growth of the aged segment of society. The second pertained to the related emergence of the field of gerontology and the interest within it in understanding early life precursors to how people age – that is, the goal of connecting early development to later life change. The third pertained to the aging of classical longitudinal studies, many of which were begun in the 1920s and 1930s. These samples of children continued to be followed as they aged across adulthood and later life. Thus, scientific interest in long-term change across the life-span was an unanticipated consequence of research initiated primarily to understand child development, but with the passage of time evolved into studies of adolescent and adult development.

To summarize, the life span approach is psychology called for studying development from birth to death, clarified differences between restrictive versus flexible conceptions of developmental change, emphasized the need for comparative perspectives (across persons, cohorts, cultures), underscored the plasticity of the organism, and saw the need to distinguish maturational processes from cohort influences or period influences, while simultaneously advancing research methods designed to facilitate this task. For the most part, the substantive illustrations of the life span developmental approach came from traditional areas in the discipline of psychology (e.g. perception, cognition, language, personality, social, motivation).
Life Course Sociology

A useful recent review by Alwin [16] summarizes earlier efforts in the 1980s to explicate the life course approach in sociology [17–20]. A frequently noted historical precursor to the life course formulation was the classic work of Thomas and Znaniecki [21], which examined the lives of Polish peasants in Europe and America to make the point that full understanding of life histories requires looking at the interaction of individuals and the society around them. Stated otherwise, life course sociology emphasized the interplay of biography and history. Thus, although sociologists were also interested in change, growth, and decline, they approached these questions in ways that were more explicitly tied to surrounding social structural influences. In addition, life course sociology paid greater attention to the events, transitions, and trajectories of people’s lives across multiple domains. So doing meant tracking people’s movement into and out of particular life roles and experiences, as exemplified by transitions in work and family life.

Elder’s [19] classic work on Children of the Great Depression was a major exemplar of the life course approach in sociology, focusing at it did on the interplay of individuals lives and major economic upheaval occurring around them. His perspective made clear that how people’s life trajectories were affected differently by the great depression depended not only on the scope of financial deprivation incurred, but also on the age one was when the trauma occurred. Age at the time of the economic collapse was important because it defined the scope of one’s exposure to trauma. While Elder [22] gave explicit attention to the meaning of age in a life course framework, he also emphasized the personal characteristics individuals brought with them in responding to adversity.

Over time, and paralleling the evolution of life span development psychology, refinements occurred in the fundamentals of life course sociology. Elder and colleagues [23, 24] put forth paradigmatic principles that characterize a life course approach. These included: (1) life span development – the principle that human development and aging are life-long processes, (2) agency – the principle that individual construct their own lives through the choices and actions they take within social structures (given the opportunities and constraints of surrounding historical circumstances), (3) time and place – the principle that lives are embedded in and shaped by historical times and places, and (4) linked lives – the principle that human lives are lived interdependently and that sociohistorical experiences are expressed through networks of shared relationships. Together, these guiding points of life course sociology underscored that growth and change in individual lives across time was fundamentally tied to the surrounding proximal world (social ties, family relationships) as well as to more distal structural contexts, as exemplified, for example, by one’s location within the socioeconomic hierarchy, or changing historical conditions.

Another prominent theme in the life course approach was the extent to which early life influence is consequential for later adult outcomes. This query led to the focus on early life exposures and insults, and how they accumulate over time, such as...
through recurrent episodes of illness. The core issue was the extent to which adverse environmental conditions and behaviors in early life increased risk for chronic disease and mortality in adulthood and later life [25]. Taking the long view of human development in life course sociology thus involved tracking the distant reach of early life influences as well as attending to how insults accumulate over time.

At a conceptual level, Dannefer [26] explicated the meaning of how things accumulate over time. Cumulative advantage pertains to the accrual over time of ever greater resources to those who already started with advantage, defined in terms of profiles of ability and socioeconomic status. Using the parable of talents, Merton [27] referred to this phenomenon as the ‘Matthew effect,’ drawn from the biblical passage: ‘unto everyone that hath shall be given, and he shall have abundance’. Cumulative disadvantage, in contrast, pertained to the compounding of detrimental influences over time, also traceable to the biblical source: ‘but from him that hath not shall be taken away even that which he hath’. For sociologists interested in the study of social inequalities in health [28, 29], these ideas were fundamentally important. Socioeconomic disadvantage (lacking educational attainment, income, occupational status) thus not only compromised one’s health at a particular moment in time (e.g. childhood, early adulthood), but worse, such effects for some were accentuated over time.

Other sociological contributions explicated the relevance of age norms, age constraints, and age socialization [30]. The central idea was that life course development unfolds in contexts wherein people know when they are supposed to complete particular life tasks (e.g. get an education, marry, have children, retire). This normative age environment serves as ‘prods and brakes’ on people’s behavior, encouraging them to speed up or slow down their life transitions in particular domains. More importantly, age norms can result in individuals perceiving that they are ‘on-time’ or ‘off-time’ with regard to particular life accomplishments – that is, they are out of step with what most others are doing at a comparable age. These ideas underscored the force of social norms in how people evaluate their own life achievements and trajectories.

It is worth noting that life span developmental perspective in psychology was sharply critiqued by sociologists. Dowd [31] asserted that much in the theories professed by psychologists represented middle class, bourgeois formulations of growth and development. Drawing on Marxist formulations, he asserted that the opportunities for human development are not equally distributed across the social order, but instead accrue to more privileged segments of society. Construing development as fundamentally about self-realization – making the most of one’s talents and capacities – only the advantaged individuals (those with resources and opportunities) were likely to experience growth and personal development. Although life span developmental psychology rarely addressed such issues, those studying social equalities in health, were explicitly interested in understanding how such disparities unfolded over time. Sociologists, in particular, examined whether the cumulative advantage and disadvantage are mechanisms through which inequality in health occurs [32].
Methodological issues also had prominence in life course sociology and included comprehensive formulations of the significance and empirical tracking of cohort effects [33]. Statistical tools within life course sociology have included event history models, event-centered growth modeling strategies, and latent class models of life pathways [34, 35]. Along the way, life span psychology also moved toward growth curve modeling techniques [36] and latent change analysis [37]. Such techniques are designed to exploit the potential of multiwave longitudinal designs with large samples.

In summary, the life course approach in sociology shows a similar emphasis on tracking lives through time as seen in life span psychology. But the sociological formulation gave notably more attention to the contexts of people’s lives, which included their movement through particular life roles and transitions, many of which unfolded according to normatively defined timetables. The interplay of biography and history received greater consideration, as illustrated with how individual lives are shaped by major historical events, such as economic depressions and wars, or processes of modernity. Social relationships, exemplified with idea of linked lives, had greater prominence in sociological understanding of how lives unfold. Cumulative advantage and cumulative disadvantage were prominent questions asked by life course sociologists, with related research investigating the compounding of resources, or their absence (tied to one’s location in the socioeconomic hierarchy), and how it impacts the health.

While the above summary emphasizes some of the thematic differences between life span psychology and life course sociology, it should be noted that Alwin [16] saw much that was similar in both perspectives. Much of his formulation, however, drew on a sociologically oriented version of the life span approach [38].

Insights for Dermatological Disease from Life Span and Life Course Perspectives

In this section, I extract themes and ideas from the above approaches to consider their relevance for research and practice in dermatological disease. Using terminology from Baltes [15], dermatological disease is fundamentally a non-normative experience, meaning that for most individuals, the emergence of skin disorders are unexpected, atypical, and unplanned happenings, even though they may be chronically present over lengthy periods of time. Akin to other health problems (e.g. cardiovascular disease, cancer), dermatological disease thus sets individuals apart from others of their age peers not confronted with the challenges of managing psoriasis, eczema, acne, warts, herpes, skin allergies, and the like. A first relevant question therefore is whether and how such non-normative experience impacts the individual’s life course development. Multiple angles on this question are considered below, all of which underscore the need for comparing the lives of those afflicted with skin disorders with those who are not.
Following Elder’s distillation of paradigmatic principles characterizing the life course approach, further questions pertain to the extent to which skin disorders compromise an individual’s sense of agency in traversing the decades of adult life. A related question follows from Elder’s idea of linked lives, namely that one’s life course unfolds within a network of social relationships. To what extent and in what ways are these ties to significant others influenced by living with a skin disorder? Also from life course sociology is the importance of attending the surrounding historical context. In dermatological disease, relevant historical issues are such things as cross-time changes in how skin disorders are diagnosed and treated as well as possible changes in how they are perceived by others (i.e. Have such problems become more, or less, stigmatized over time?). These issues underscore the possibility of cohort differences in how individuals live and function with dermatological disease.

A further question pertains to accumulation processes, which sociologists have clarified involve not only the compounding of disadvantage and adversity over time, but the counterpoint accentuation of advantage and privilege. The first of these is closely linked with the theme of cumulative impairment in dermatological disease around which the current volume is organized. In considering cross-time accumulation from a life course approach, however, the larger realm of social inequalities in health must also be considered. For dermatological disease, such awareness translates to the need to examine the distribution of skin disorders across the population. To what extent are those of lower socioeconomic standing disproportionately affected by such problems? More importantly, do these disorders emerge earlier in the life course among the disadvantaged segments of society? Age of onset is important as it defines the magnitude of cumulative exposure one has to dermatological disease.

Finally, although psychodermatology tends to focus primarily on social and emotional problems in patients with skin disease [39, 40], there are good reasons to consider the psychosocial and behavioral strengths of those confronted with such challenges. Thus, the last issue examined below is that of multiple pathways across time – emerging from the idea that although the long-term trajectory of cumulative impairment across time is applicable to some, for others, recovery and resilience might better characterize the long-term trajectory. Studies outside of the realm of dermatological disease are drawn on to underscore the importance of investigating, not only pernicious long-term processes, but also ameliorative processes that may protect against cumulative impairment.

**Impact of Skin Disease on Life Course Development**

Both life span psychology and life course sociology emphasize the importance of describing and explaining developmental change from birth to death. So doing requires attending to biological and psychological processes of maturation and decline as well as transitions through timetables, defined by societal norms, for events in work and family life. On the psychological side, developmental change can be examined in domains of cognition, emotion, motivation, and personality, all of which are useful to
consider in the context of living with dermatological disease. Relevant questions are: Do skin disorders compromise growth and development in emotional, cognitive, or motivational capacities over the life course? Do they constitute core life stressors that fuel emotional distress and/or elevated levels of neuroticism? Aging in life span approaches tend to focus on decline, such as the shift toward greater comorbidity in later life [41]. A relevant question for the field of dermatological disease is whether the shift toward multiple chronic conditions occurs earlier in the life course, due to burdens (biological, psychological, social) of living with skin disorders. Succinctly put: Does dermatological disease accelerate the process of aging?

From life course sociology, additional questions are whether and how dermatological disease impacts typical transitions in work and family life. Do those with severe skin disorders show compromised lives, measured with regard to educational pursuits or occupational attainment? Do those living with dermatological disease have problematic family lives, measured in terms of reduced rates of marriage, increased rates of divorce, reduced rates of parenthood? Similarly, do transitions into and out of various occupational roles occur at different periods of the life course (e.g. delayed career advancements) for those with dermatological disease than is true for same-aged peers? Do they perceive themselves as being ‘off-time’ or abnormal regarding the usual milestones of adult life? Such questions are fundamentally comparative. As such, they bring into high relief the need to interpret the life course trajectories of those with skin disease vis-à-vis same-aged individuals not afflicted with such problems.

A likely observation is whether such questions are empirically tractable; that is, can they be scientifically investigated and if so, how? One venue for making them viable topics of inquiry involves forging collaborative interactions between those who study life span development and those who study dermatological disease. Similar comparative initiatives are currently underway in a national longitudinal study of US adults, known as MIDUS (Midlife in the US) (www.midus.wisc.edu). MIDUS was designed to investigate how people change (biological, psychologically, socially) as they age, and, further, to explicate linkages between these domains. Because members of the sample were recruited to represent the larger US population, MIDUS has become extremely useful for comparative research – such as between those living with non-normative experiences to matched peers, defined by age, gender, and educational status. Illustrating the wide disciplinary scope of the enterprise, more than 400 publications, appearing in 60+ scientific journals, have been generated from the study.

How those afflicted with disease or other life challenges compare to same-aged peers not confronted with such adversity has been examined. For example, cancer survivors have been studied relative to sociodemographically matched peers not dealing with cancer. Such work has clarified some of the unique psychological vulnerabilities and strengths of cancer survivors as they age, relative to those who are cancer free [42, 43]. Another further example pertains to parents who have a child with mental retardation or mental illness. They, too, have been compared to matched
peers to sharpen understanding of how such non-normative parenting has impacted the health and well-being of these parents relative to parents of nondisabled children [44, 45].

Included in the MIDUS study, albeit with limited detail, are questions about skin disorders among members of the sample. Thus, similar comparative analyses in the context of dermatological disease could be examined. Because the study also collects comprehensive data on cognitive, emotional, biological factors, as well as detailed information about experiences in work and family life, the study offers numerous opportunities to address many of the life span developmental and life course questions delineated above. All data from MIDUS are publicly available, making such queries open to interested investigators. Thus, although dermatological disease is not a primary emphasis in the study, opportunities are nonetheless available to probe deeper understandings of cumulative life impairment in dermatological disease, by examining whether and how such disorders may have interfered with normal developmental processes and possibly hastened progressions toward later life decline and disability.

**Impact of Skin Disorders on Agency and Social Networks**

Sociologists tend to see social structural forces, such as one’s standing in the socioeconomic hierarchy, as forces shaping the course of individuals’ lives. Still, they are also careful to emphasize the importance of human agency. Thus, the actions, choices, decisions, and priorities that people bring to their experiences shape their destinies as well. In similar fashion, sociological perspectives give prominence to proximal social relationships that contour, and are contoured by, people’s life journeys. Population aging studies, such as MIDUS, again offer windows into such questions, given scope of psychosocial variables measured on individuals as they age from early adulthood to later life. Related topics pertain to the degree to which individuals see themselves as being in control of or having mastery over their lives, and whether such perceptions vary depending on one’s age, or socioeconomic status [46–48]. Comparative studies with those suffering from dermatological disease are again relevant – do chronic skin disorders compromise the sense of mastery and control? If yes, for whom and under what conditions?

Similarly, the MIDUS study has unusually rich measures of social engagement and social connection, probing the extent to which individuals have frequent contact with and high-quality connections to their significant others. These assessments have been linked to numerous outcomes, including cognitive functioning [49] and biological risk factors, such as inflammatory processes [50, 51]. In addition, MIDUS has been a useful forum for studying marital histories. All such queries are pertinent to living with dermatological disease? Does the experience compromise the quality of one’s social relationships? Do those suffering from skin disorders have distinct marital histories relative to same-aged peers? Although some such questions may be part of extant dermatological research, comparisons to disease-free peers may constitute new scientific territory.
Changing Historical Contexts and Dermatological Disease

A major feature of life course sociology has been the intersection of biography and history – that is, how unfolding lives are influenced by changing historical contexts. These questions have often been illustrated with major changes, such as widespread economic depressions or wars or natural disasters, all of which have been shown to impact the opportunities and constraints individuals have to pursue their goals and life objectives. Some of these questions may be relevant in the context of dermatological disease as well. For example, does the prevalence of skin disorders vary across time depending on societal upheavals, such as major economic downturns? Perhaps more important are historical changes in how dermatological diseases are diagnosed and treated. These changes may be accompanied by related shifts in the extent to which stigma is associated with skin disorders. The larger message following from life course sociology is the importance of situating the study of individual lives in the broader historical context.

Accumulation Processes and Dermatological Disease

This volume addresses the question of cumulative life impairment in dermatological disease. As described above, the discipline of sociology has given extensive attention to how things accumulate over time, both with regard to the compounding of disadvantage (linked to low educational and economic standing) as well as the compounding of advantage (linked to high educational and economic standing). A central question has been whether health disparities between the have and have-not segments of society are accentuated over time; that is, the extent to which these discrepancies become more pronounced as individuals grow older. The theme of cumulative impairment in this edited volume seems similarly tied to accumulation processes in the context of dermatological disease – that is, whether they may become progressively worse over time and/or have increasingly dire effects on functional capacities or quality of life.

The sociological literatures again provide useful guidance for pursuing such questions. For example, sociologists have made distinctions between different types of cumulative processes [51]. Cumulative adversity could pertain to a single persistent hardship, or alternatively, to a chain of contingencies in which one condition is overtaken by the next in a series of unfolding hardships, also referred to as stress proliferation. Alternatively, there could be a layering effect in which one hardship remains present and the next builds on top of it in a cascading sequence. What such distinctions draw attention to is the need for specificity in defining what is accumulating across time. Applied to dermatological disease, such accumulation could pertain to disease symptoms, the factors that exacerbate them, or that constitute their consequences for other domains of functioning, or more likely, to chains or sequences among all three.

The life course approach also emphasizes the timing of exposure to adversity – that is, when (at what age) did the exposure occur and for how long did it last? These
questions underscore the need for tracking duration information across time so to bring more precise understanding of temporal dynamics. In addition, those who have studied social inequalities over the life course recognize the importance of attending to selective attrition in making comparisons between advantaged and disadvantaged segments of society. Those most impaired frequently drop out or die over the course of long-term studies, thus, leaving more high functioning survivors, which without attending to differences in attrition, can skew interpretations of longitudinal findings.

Lastly, cumulative adversity in sociology frequently involves studies of minorities or marginalized individuals, who must also contend with stigma, prejudice, and discrimination at individual and institutional levels [52]. These interpersonal challenges have obvious parallels in studying cumulative impairment in dermatological disease. The message is that stigma, prejudice and discrimination should also be incorporated in efforts to delineate how skin disorders impact health, broadly speaking, across time.

**Multiple Life Pathways in Dermatological Disease: Vulnerability and Resilience**

Described above are diverse ways in which dermatological disease could become progressively more debilitating across time. The components on pathways to increasing vulnerability could be exacerbation of symptoms and their sequelae, or the compounding of related stressors in other life domains. What is less understood are the counterpoint pathways – namely, the life journeys for those in which skin disorders becomes progressively less prominent over time and for whom the individual, either through effective treatment regimens or lifestyle changes, becomes ever more capable of managing the disease. This resilience pathway calls for greater research and clinical attention as well, as it may point to critical protective factors.

A growing literature on resilience vis-à-vis a diverse life challenges is unfolding across multiple scientific disciplines [53]. MIDUS, given its extensive assessments of psychological and social strengths (e.g. sense of control, psychological well-being, positive emotions, social support, social integration) has become a rich forum for documenting that some do well (mentally and physically), despite being socioeconomically disadvantaged, or despite the difficulties that accompany aging (widowhood), or despite other life challenges (cancer, parenting a child with disabilities) [54]. These findings draw attention to the need to understand the counterpoint of cumulative impairment in dermatological disease – namely, cumulative empowerment in managing (learning how to minimize adverse consequences for health and effective functioning), or even overcoming skin disorders across time. For some, the long-term story is one of prevailing in the face of adversity. This latter tale also needs to be told.

In sum, life span and life course approaches, as they evolved in the social sciences, offer numerous avenues for enriching understanding of the long-term effects of dermatological disease. They draw attention to the importance of investigating how living with a skin disorder over the long-term may impact one's development in cogni-
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tive, emotional and motivational domains as well as the course of work and family life. Such questions are likely to be most informative when they involve comparisons to same-aged individuals not afflicted with dermatological disease. Further relevant questions pertain to the impact of skin disorders on one’s sense of agency and control in pursuing life goals, along with possible impact on the quality and quantity of one’s social relationships. Accumulation processes loom large in studies of life course development, with research therein sharpening understanding of what specifically is compounding over time and when (at what age) such adverse exposures began. This kind of precision is equally important in advancing knowledge of cumulative impairment in dermatological disease as well. Finally, although pathways of vulnerability are naturally invoked in thinking about how disease progressively compromises functioning across time, growing evidence supports a pathway of resilience for some. Understanding how skin disorders are even more effectively managed across time so that their impact on other domains of life is progressively diminished is an important agenda for research and practice as well.

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Life Span and Life Course Approaches

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