Psychosocial aspects of successful aging and resilience: Critique, integration, and implications

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As the number of older adults increases worldwide, it is becoming increasingly important to find effective ways of fostering better aging trajectories. The models used to shape this process inform research, policy, practice and impact older adults themselves. Two important aging models are successful aging(SA) and resilience(RES). Aligning the conceptual framework in research contexts with those of older adults' perspectives is an integral component of driving forward the research agenda in a manner that has the greatest potential benefit older adults. Studies conducted with laypersons indicate that psychosocial components are important components of successful aging models; therefore, it is imperative that these non-biomedical components are incorporated. There are many similarities between SA and RES models, but an important distinguishing feature is the incorporation of adversity into conceptualizations of resilience. SA models suggest high levels of functioning as a requirement for aging successfully, regardless of the circumstances the individual experiences; resilience models take into account the level of adversity being experienced by the individual. Individuals can demonstrate RES by having a more positive outcome than would be expected given their level of adversity. The incorporation of psychosocial constructs into SA models and the integration of SA and RES paradigms has important implications for research and for older adults themselves. Through the promotion of models of aging that include psychosocial components and elements of adversity, greater generalizability to a broader population is possible with enhanced potential for research derived from these efforts to more positively influence individuals' trajectories of aging.

As the number of older adults increases worldwide, it is becoming increasingly important to find effective ways of fostering better aging trajectories. The models that are used to understand individual variations in aging trajectories inform policies and in turn affect older adults who are experiencing aging. As a result, aligning the conceptual framework in research contexts with those of older adults' perspectives is an integral component of driving forward the research agenda in a manner that has the greatest potential to influence older adults positively. Two prominent models in the aging literature are successful aging (SA) and resilience.

Successful Aging

In the early 60s, the concept of SA first began to be used in the gerontological literature. This body of work has subsequently grown to be one of the most popular gerontological models currently in use (Rowe & Cosco, 2016); however, despite this popularity, the SA model has come under considerable criticism. These criticisms are synthesized and examined in a systematic review by Martinson and Berridge (2014). Amongst the 67 articles assessing the SA model identified in the review, four thematic categories were identified: i) "Add and Stir", ii) "Missing Voices", iii) "Hard Hitting", and iv) "New Frames and Names". Add and Stir critiques (n=16) suggest that the SA model should be expanded to include a broader spectrum of components, such as psychosocial components. Missing Voices critiques (n=30) suggest that older adults' subjective perspectives on SA should be included in these models. Hard Hitting critiques (n=14) advocate for a fundamental reappraisal of the continued use of the SA model, citing the individualistic focus of the model as well as its unintended ageist and ableist leanings. Finally, the New Frames and New Names critiques (n=7) suggest the addition of different components to the SA model linked to a fundamental reframing into different conceptual paradigms.

A common thread woven throughout these critiques is the demand for more multidimensional or inclusive conceptual frameworks of SA and the realignment of the paradigm to make it applicable to a greater proportion of the population. In consideration of these limitations, we suggest that the inclusion of psychological components into models of SA is a starting point in addressing the conceptual challenges of multidimensionality and inclusion, i.e. Add & Stir and Missing Voices. Furthermore, by using resilience frameworks to incorporate experiences of adversity into these models, they will be more readily applicable to a greater proportion of the population and may progress this framework, i.e. Hard Hitting and New Names & New Frames.

The first iterations of the SA model were largely reactionary. Dominant aging theories in the late fifties and early sixties either focused on the negative medical aspects of aging, for example pathologies, or the frameworks for social aging were largely negative. Of particular importance here is the popular "Disengagement Theory" (Cumming & Henry, 1961). It suggested that ageing well involved a kind of progressive withdrawal from the burdensome activities and tasks of earlier life. The desirable endpoint was social disengagement. While this model would likely be considered as ageist in contemporary research and discourse, viewing older people as a burden to society was the status quo half a century ago. Havighurst (1961) brought to the fore a much more positive perspective on aging, advocating for the maintenance

and/or increasing of active engagement in the aging process. This model did not provide an operational definition for successful aging, per se, but it marks the first use of the term "successful aging" in the journal *The Gerontologist* (Issue 1, Volume 1).

Much of the popularity enjoyed by the SA model has (arguably) stemmed from the publishing of Rowe & Kahn's seminal "Human aging: Usual and successful" in the eighties (1987). Given its publication in the popular and multidisciplinary journal *Science*, the reach of the SA model expanded beyond the scope of the field of aging into many other disciplines, such as psychology. Further, the popularization of this model was bolstered by an expansion of these the ideas in the fit-for-public-consumption book *Successful Aging* in the mid-nineties, by the same authors (Rowe & Kahn, 1998). This model suggests that for an individual to be considered "successfully aging" they must demonstrate high functioning in three separate areas: 1) avoidance of disease of illness, 2) maintenance of high levels of physical and cognitive functioning, and 3) active engagement (Rowe & Kahn, 1997). The advantages of this model over previously suggested models aging are its simple operationalization and its focus on the high end, rather than the low end, of the functioning spectrum. In the years following the publication of the Rowe & Kahn model, there has been considerable expansion and refinement of the definition of SA (Rowe & Cosco, 2016).

A difficulty arising in the use of the SA model within research contexts is the absence of a consensus in how the construct should be operationalized (Cosco, Prina, Perales, Stephan, & Brayne, 2014; Rowe & Cosco, 2016). In 2013, a systematic review of operational definitions of SA revealed 105 unique operational definitions used by researchers in published studies (Cosco, Prina, et al., 2014): roughly 3 different definitions for every 2 articles critiquing the model (Martinson & Berridge, 2014).

The Missing Voices critique of SA argues that the perspectives of older adults are not accurately represented in, and were not used in the original development of the SA model (Martinson & Berridge, 2014). Although the MacArthur Foundation group that developed the SA group consisted of geriatricians and gerontologists (i.e. experts in the field of aging), there was no direct consultation with older adults themselves (Rowe & Kahn, 1997). Further, this group did not demonstrate a great deal of diversity, i.e. consisting of largely of socioeconomically advantaged Westerners. Consequently, an expansion of the scope of the conceptual framework of SA, informed by geographically, ethnically, gendered, and socioeconomically diverse groups, is warranted.

In order to identify what older adults think is important for SA, many qualitative studies have been conducted probing what SA means to the lay person. Synthesizing these data is a systematic review and meta-ethnography of the qualitative SA literature (Cosco, Prina, Perales, Stephan, & Brayne, 2013). In this review, 26 studies are identified as having asked older adults how they defined SA. These qualitative studies revealed an overwhelming tendency to include psychosocial components into definitions of SA: each of the 26 qualitative studies identified psychosocial components, for example, acceptance, compared to 76% (20) that included biomedical components, e.g. physical functioning (Cosco et al., 2013). These psychosocial components were grouped into several themes (in descending order of prevalence): engagement,

perspective, self-awareness, independence, acceptance, quality of life, prevention and remediation, community, spirituality, and social roles. It is, however, important to note that the majority of studies identified in this review were conducted in Western countries, specifically the USA (50%, n=13) and Canada (15%, n=4) and primarily in populations of community-dwelling Caucasian older adults. This paucity of non-Western studies highlights the pervasiveness of these Western perspectives and the need for the expansion and inclusion of non-Western countries in research.

The observation that psychosocial components are an important aspect of SA models has been supported by younger adults' from diverse backgrounds, i.e. eight continental European countries, perspectives on the aging process (Cosco, Brehme, et al., 2015; Cosco, Lemsalu, et al., 2015). In a multi-country study, which included participants from Belgium, Estonia, Netherlands, Germany, Switzerland, Romania, and Turkey with an average age of 24.1 (±3.7) years, psychosocial aspects were the most prominent themes and most popularly identified aspects of SA (Cosco, Lemsalu, et al., 2015). The highest ranked items of the Successful Aging Questionnaire (Phelan, Anderson, LaCroix, & Larson, 2004), were "Feeling good about myself" and "Not feeling lonely or isolated", whilst the least popular were "Living a very long time" and "Having the kind of genes (heredity) that help me age well". The psychosocial components were found both in greater variety and in a greater number of studies than more biomedically-focused models, thus highlighting the need for the inclusion of psychosocial components into models of SA.

As well as providing justification for the Missing Voices critiques, these studies have also highlighted issues raised in the Add & Stir critiques, i.e. advocating for the adoption of more multidimensional perspectives on SA. Whilst the traditional Rowe & Kahn model suggests a fairly narrow biomedical perspective on SA, more recent studies have highlighted the expansion of this model into psychosocial domains, particularly those examining perspectives from older adults (Cosco et al., 2013). This expansion of the conceptual framework also challenges simplistic binary conceptualizations of SA, i.e. being "successful" or not (Cosco, Stephan, & Brayne, 2014). Similar to the issues in the cross-cultural comparison of differing operational definitions (Cosco, Prina, et al., 2014), when different thresholds for what is considered SA vs non-SA are used it is not possible to draw meaningful conclusions from these comparisons. A recent review of SA definitions identified the percentage of study participants qualifying as SA ranged from less than 1% to greater than 90% (Cosco, Prina, et al., 2014). Further, the application of these binary thresholds has been problematic (Cosco, Stephan, et al., 2014). In a longitudinal sample of adults aged 75 and older, Cosco et al. (2013) used a biopsychosocial SA model informed by older adult perspectives, as identified in the lay perspectives of SA review. The authors found that less than one percent of the sample met the binary criteria for SA in the first three waves of data collection, and for the final four waves none of sample met these criteria (Cosco, Stephan, et al., 2014). Consequently, we are encouraged to not only look to incorporate other dimensions into SA models, notably psychosocial components, but also to expand the framework of SA to include a spectrum of SA, rather than an all-or-nothing dichotomy.

Resilience

The concept of resilience is centered on the capacity to "bounce back" from an adverse event (Garmezy, Masten, & Tellegen, 1984). The origins of research into human resilience began in developmental psychology, applied to the ways in which some children from adverse backgrounds could overcome these challenges (Garmezy et al., 1984; Rutter, 1985). These resilient children were initially described as "invulnerable" (Anthony, 1974) or "invincible" (Werner, 1997); however, these terms have subsequently fallen out of favor (Fleming & Ledogar, 2008). Research into the mechanisms underpinning how resilience could be fostered has focused on the individual, the family and the community (Rutter, 1985), examining resources and protective mechanisms at each of these levels (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). At the individual-level, these resources included constitutional resilience, sociability, intelligence, communications skills, and other personal attributes, with a host of associated protective mechanisms, e.g. positive temperament, pro-social attitudes, academic achievement, developed language, and internal locus of control, respectively (Olsson et al., 2003). Family-level resources included supportive families, with protective mechanisms, such as family cohesion (Olsson et al., 2003). Community-level resources include supportive communities, with protective mechanisms such as belief in societal values (Olsson et al., 2003). Although these frameworks were initially developed with young child or adolescent populations, resilience frameworks have more recently been expanded to include middle- and older-aged adults (Ong, Bergeman, & Boker, 2009)

In a similar fashion to the absence of a single consensus operational definition for the SA paradigm, there is currently no generally accepted definition of resilience (Cosco et al., 2016). However, in contrast to SA, there are two components common to all resilience definitions: i) some form of adversity and ii) a positive response to that adversity, sometimes referred to as "adaptation" (Cosco, Kaushal, et al., 2017). The specific ways in which these two components combine, however, can vary widely. In a recent review of operational definitions of resilience in longitudinal studies, 24 separate adversity-outcome dyads were identified, ranging from bereavement-absence of depression to disaster-absence of physiological distress (Cosco, Kaushal, et al., 2017). The capacity for the resilience framework to examine a variety of different adversity-outcome relationships presents opportunities to look at resilience from a variety of angles, e.g. from a psychological perspective. Further, it is possible to examine the ways in which individual, social, and environmental resources moderate or mediate the relationship between these adversity-outcome dyads, and do so through a life course lens (Raina et al., 2009). This presents important opportunities to examine the ways in which resilience can be fostered in groups that are predisposed to experiencing adversity variants.

The examination of resilience amongst older adults is becoming increasingly important as more individuals enter old age. As one ages, they become increasingly likely to experience some form of adversity, e.g. physical and/or mental limitations; indeed, age is of the strongest predictors of functional disability (Manton, Corder, & Stallard, 1997). Therefore, identifying behaviors or resources that individuals can invoke to foster better outcomes, particularly psychological outcomes, in spite of the adversity they are experiencing is a strategy that has the potential to avoid health service utilization, reduce the burden on caregivers, and to increase the quality of life experienced by the individual. By harnessing greater individual, social, and

environmental resources, it may be possible to offset the negative implications of adversity. For example, in an examination of resilience in older adults, in which resilience was defined as greater psychological wellbeing than would be expected given the level of physical disability/functioning experienced, study participants with greater socioeconomic resources, i.e. higher social class, experienced greater levels of resilience (Cosco, Cooper, Kuh, & Stafford, 2017).

Successful Aging and Resilience

Although there are many similarities between SA and resilience, an important distinguishing feature is the incorporation and consideration of adversity in resilience models (Cosco, Howse, & Brayne, 2017). SA models define successful aging in terms of high levels of functioning, regardless of the circumstances the individual experiences. In contrast, resilience models take into account the level of adversity being experienced by the individual. As an example, individual X with high levels of adversity may demonstrate resilience, despite having the same level of an outcome variable as individual Y, who does not demonstrate resilience because they are experiencing relatively low levels of adversity. This incorporation of adversity into models of resilience, presents broader public health applicability than models of SA, since most individuals will experience some degree of physical or cognitive impairment during the life course. Therefore, having a model that examines outcomes that take individuals experiencing functional disabilities or illness into consideration is an important component of having a more broadly applicable model.

The exclusion of individuals that experience illness or disease in SA models is highlighted by Martinson & Berridge's (2014) Hard Hitting critique of the SA model, which (amongst other things) has described SA as ageist and ableist. Indeed, having age as a strong predictor for exclusion (via its association with functional decline (Manton et al., 1997) from successfully aging does not make this a widely-applicable model. The model of resilience is, however, capable of taking into consideration age-related declines in functioning as well as incorporating individuals with disabilities. Consequently, the resilience model has broader applicability to the general population. This has significant implications for research and the subsequent policies developed from this research. If the outcome variable is not realistic for the majority of the population, as is the case in SA, the relevance of these findings to the general public will likely be limited. As such, the identification of predictors of this outcome and the informing of policy based on these predictors will likely have less utility. The nature of resilience also has its limitations, specifically with respect to the dynamic and/or non-linear nature of adversities and of individuals' responses to these adversities. Some individuals may experience episodic and/or chronic adversity and responses to these adversities may vary widely. Consequently, we must be careful not to downplay human agency in shaping positive outcomes and to provide circumstances in which individuals have the best possibility of invoking resources to foster greater resilience.

Moving Forward with Successful Aging and Resilience

Previous work by Pruchno, et al. (Pruchno & Carr, 2017; Pruchno, Heid, & Genderson, 2015), has sought to further the SA narrative via a resilience framework. This viewpoint addresses the New Names & Frames critique made by Martin & Berridge (2014), by looking to complementary paradigms to advance SA research. Whereas SA is often described as a state to which one should aspire, resilience is more of a process of navigating adversity (Pruchno & Carr, 2017; Pruchno et al., 2015). The dynamic nature of the ways in which older adults experience adversity in later life is paralleled by the responses individuals have to these adversities. From a public health perspective, if it is possible to identify the individual, social and environmental resources that individuals can invoke to foster greater resilience, this may offset some of the adversities that one might expect to experience in later life.

Striving for SA as an outcome via the process of resilience may be a way in which older adults can realize their best aging trajectory. The association between age and increasing vulnerability to functional declines and/or illness makes attaining the goal of traditional biomedical models of SA unlikely. By incorporating psychosocial components into SA models, a more well-rounded and comprehensive goal to strive for is possible, particularly given the importance older adults have indicated psychosocial components have in their perspectives on aging (Cosco et al., 2013). For individuals that experience adversity in the form of functional decline or illness, whilst it may not be possible to be demonstrating high levels of SA, per se, it may be possible be demonstrate resilience and to improve one's individual circumstances. Through the invoking of resources that are associated with greater resilience, e.g. individual, social, and environmental, it may be possible to have a better response to an adversity and one that takes into account variations in individual experiences of adversity. The integration of these two constructs provides a more comprehensive model of the aging process, including a greater proportion of the population and consequently having a broader scope for public health applications (Windle, 2012).

Summary

The incorporation of psychosocial constructs into SA models and the integration of SA and resilience paradigms has important implications. From a research perspective, it is imperative that the outcomes examined are relevant to the target demographic. In the case of SA, it is clear from studies of older adults' perspectives on SA that psychosocial components are important (Raina et al.); this theme has been demonstrated both in Western and non-Western samples as well as in samples of younger and older adults (Cosco, Brehme, et al., 2015; Cosco et al., 2013). In addition to incorporating a multidimensional domain structure in models of SA, we must also look beyond binary models of SA to capture the heterogeneity of the aging process and the diversity of older populations. The ways in which one ages cannot usefully be classified as "successful" or not; therefore, the use of continuums in the quantification of SA is imperative. The dynamic nature of the aging process includes adversity in various forms, intensities, and temporalities, alongside a range of positive and negative responses to these adversities. Resilience models focus on the relationships between adversities and responses to those adversities, rather than setting absolute thresholds for an outcome variable. By focusing on the way an individual responds to an adversity whilst taking into account the level of adversity they

experience, we can examine ways of fostering a better outcome given one's individual circumstances. What may be a high level of functioning for someone experiencing a great deal of adversity may be a demonstration of resilience, whilst level of functioning may be low level for someone with a comparatively low level of adversity. As a result, this model is more inclusive than traditional models of SA, since most adults experience adversity at some point during the aging process.

There is clearly a great deal of overlap between SA and resilience paradigms, each striving to foster positive aging trajectories in older adults. The inclusion of psychosocial components into SA models and the integration of the resilience framework into models of SA addresses many of the issues that arise in Martinson & Berridge's critique of SA (2014). Through the promotion of models of aging that include psychosocial components and elements of adversity, greater generalizability to a broader population can be realized with greater potential for research derived from these efforts to more positively influence individuals' trajectories of aging.

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