

# Are "Anti-Aging Medicine" and "Successful Aging" Two Sides of the Same Coin? Views of Anti-Aging Practitioners

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**Objectives.** This article analyzes data from interviews with anti-aging practitioners to evaluate how their descriptions of the work they do, their definitions of aging, and their goals for their patients intersect with gerontological views of "successful aging."

**Method.** Semistructured interviews were conducted with a sample of 31 anti-aging practitioners drawn from the directory of the American Academy for Anti-Aging Medicine.

**Results.** Qualitative analysis of the transcripts demonstrate that practitioners' descriptions of their goals, intentionally or unintentionally, mimic the dominant models of "successful aging." These include lowered risk of disease and disability, maintenance of high levels of mental and physical function, and continuing social engagement. Yet, the means and modes of achieving these goals differ markedly between the two groups, as do the messages that each group puts forth in defending their positions.

**Discussion.** Anti-aging practitioners' adoption of the rhetoric of successful aging reflects the *success* of successful aging models in shaping popular conceptions of what aging is and an ethos of management and control over the aging process. The overlap between anti-aging and successful aging rhetoric also highlights some of the most problematic social, cultural, and economic consequences of efforts made to reconceptualize old age.

**Key Words:** Anti-aging—Hormone replacement—Prevention—Quality of life—Qualitative research.

THE notion that the human aging process can to some degree be managed or controlled underlies one of the most vibrant intellectual traditions in gerontology: successful aging. "Successful aging" first appeared as the title of Havighurst's (1961) article in the inaugural issue of *The Gerontologist*, which he defined as "the conditions of individual and social life under which the individual person gets a maximum of satisfaction and happiness" (p. 8). What constitutes and contributes to successful aging has been sharply debated in the decades since, and the concept itself has been critiqued from within gerontology. However, the idea that one can "succeed" at aging, and that some strategies and interventions might increase that success, has reached a position of near-ubiquity within gerontology today—despite the distinctly varied interpretations of the meanings and applications of "successful" aging.

As "successful aging" models were advanced and broadened within gerontology, the "anti-aging medicine" movement was gaining traction as both commercial and public interests. On one hand, images and proscriptions for "successful aging" from gerontology challenged ageist beliefs and stereotypes by claiming that there were positivist methods that could be employed to create a "new" kind of aging, whereby the fruits of middle age could be enjoyed well into old age (Moody, 2005). Anti-aging medicine, on the other, argues that the aging process is something that can be

targeted with biomedical interventions in order to delay or even reverse aging (Mykityn, 2006). Although mainstream gerontology and anti-aging medicine have a long history of alienation and antagonism and are considered by many to be antithetical, others have posited that anti-aging medicine simply may offer "a new option to [achieve] successful aging" (Stuckelberger, 2008, p. 86).

Both the success of the successful aging paradigm and the anti-aging movement can be situated within the context of sociocultural changes associated with the "postmodern life course" of the late twentieth and early twenty-first century, changes that diminished the salience of age and generation in social life and organization (Katz, 2001-2). Both paradigms appeal to longstanding American cultural ideals of personal autonomy and responsibility that suggest that the course of old age is not predestined, but rather a condition that can be modified and controlled by individual choices (Moody, 2005; Vincent, 2013). The routes to modifying or controlling aging, however, are somewhat bifurcated. Proponents of successful aging claim that these models are buttressed by strong scientific and empirical legitimacy, while the legitimacy of anti-aging medicine has long been questioned and has been coupled with accusations that its practitioners exploit cultural fears of aging for commercial gain (Vincent, 2013; Vincent, Tulle, & Bond, 2008).



This article examines the connections between prominent models of successful aging and the anti-aging movement as represented by physicians who are practicing under the auspices of anti-aging medicine. Our analyses reveal how the goals and approaches of anti-aging practitioners, often viewed as unconventional within the field of medicine, are largely consonant with much of the rhetoric of successful aging that has dominated gerontology for the last three decades, even though the two approaches diverge significantly in their motives, means, and promotional strategies.

Although the anti-aging medicine movement has not to date been explicitly tied to successful aging, we argue that the anti-aging movement, and the industry associated with it, has capitalized on gerontology's success in popularizing successful aging. The success of the empirical models of successful aging has aided in the cultural construction of images of positive aging, which have not only countered ageist beliefs but also created a space in which the anti-aging industry has been able to flourish. Through an analysis of interview data with anti-aging practitioners, we identify how the practices and ideas about aging espoused by these practitioners reflect the rhetoric and underlying tenets of the successful aging paradigm. We conclude by discussing the ideological convergence and divergence between these two seemingly polar approaches to aging and the possible origins of this overlap. To provide context, we begin with a necessarily brief history of both anti-aging medicine and successful aging.

#### *American Academy of Anti-Aging Medicine and the Critique of Anti-Aging Medicine*

While attempts to control human aging have existed from early human civilizations (Gruman, 2003; Olshansky & Carnes, 2001), the exponential growth of an anti-aging social movement in the United States in the last two decades has coalesced around the notion that aging can be altered or controlled through biomedical intervention (Mykityn, 2006). Propelling the movement's prominence has been the creation of organizations that certify and promote the endeavors of anti-aging medical practitioners (Binstock, 2003; Fishman, Binstock, & Lambrix, 2008; Mykityn, 2006; Vincent, Tulle, & Bond, 2008). The most visible of these organizations is the American Academy of Anti-Aging Medicine (A4M, 2013a), which claims more than 26,000 members. Despite the fact that neither the American Medical Association nor the American Board of Medical Specialties recognizes A4M, it has established certification and fellowship programs in "anti-aging medicine" for medical professionals (A4M, 2013b). A4M takes on many roles in promoting anti-aging medicine: professional organization, lobbying group, and direct-to-consumer marketing firm via their website (Fishman, Binstock, & Lambrix, 2008; Spindler & Streubel, 2009).

The relationship between A4M and gerontology is contentious at best. Previous research has revealed how gerontology and the anti-aging movement have actively engaged

in "boundary work" meant to create and reinforce their respective power and status (Binstock, 2003; Settersten, Flatt, & Ponsaran, 2008). Gerontologists have vehemently distanced themselves from A4M, which has, since its inception, been embroiled with lawsuits with one another over the founders' medical credentials, legitimacy of its claims, use of controversial treatments, and slander (Weintraub, 2010; Zs-nagy, 2009).

Anti-aging medicine is big business, worth a purported \$50 billion (Japsen, 2009). When over-the-counter anti-aging products are included, the broader anti-aging industry balloons to an estimated \$88 billion in sales each year (Weintraub, 2010). Gerontologists contend that anti-aging medicine promotes a fear of aging—as something to oppose and conquer with unconventional and unproven therapies, all in the name of widening their market share. Perhaps the most widely publicized criticism of anti-aging medicine from gerontology was a *Scientific American* article, "No Truth to the Fountain of Youth." It summarized a lengthier position statement signed by a group of 51 distinguished gerontologists in order to "inform the public of the distinction between the pseudoscientific anti-aging industry, and the genuine science of aging" (Olshansky, Hayflick, & Carnes, 2002, p. B292). In 2002, a judging panel of these scientists (Jay Olshansky, Leonard Hayflick, and Bruce Carnes) even "presented" the cofounders of A4M with the "Silver Fleece" Award (University of Illinois at Chicago Office of Public Affairs, 2002). This award, modeled after the "Golden Fleece Awards" that former US Senator William Proxmire gave to public officials for wasteful spending, was an effort to make the public aware of anti-aging quackery.

In response, the A4M (2002) retorted

... the death cult of gerontology desperately labors to sustain an arcane, outmoded stance that aging is natural and inevitable ... Ultimately, the truth on aging intervention will prevail, but this truth will be scarred from the well-funded propaganda campaign of the power elite who depend on an uninterrupted status quo in the concept of aging in order to maintain its unilateral control over the funding of today's research on aging.

Another way A4M has responded to criticism has been to promote their membership as the "go-to" experts on treatments that lie outside of traditional medical practices, particularly hormone treatments. For example, their *White Paper Guidance for Physicians on Hormone Replacement Therapy* argues "most traditional endocrinologists have had no intense training in treatment" and "lack ... interest and expertise in how to treat testosterone and adult growth hormone deficiencies and some other hormone deficiencies that may accelerate aging" (A4M, 2007, p. 3). Further, they "point to the right of every patient who is suffering from these deficiencies to get relief ... by the adequate hormone treatment" (p. 4).

Views in whole fields are rarely monolithic. But it is within this backdrop of "boundary work" that anti-aging



medicine is practiced. It is not our intention to evaluate the scientific or medical legitimacy of their treatments, which, as we have noted, have been raised elsewhere. Instead, we aim to examine how anti-aging practitioners explain their purposes and clinical practices in light of the public debate and portrayal of anti-aging medicine as opposition to mainstream gerontology. We caution the reader, however, against reading individual anti-aging practitioner's motives as being purely profit driven. One of the consistent findings from research on anti-aging practitioners is that they partake in the same therapies they prescribe to others and are often drawn to the field based on their personal experiences with aging relatives (Mykytyn, 2006), the latter of which may also be true of gerontologists. In fact, renowned anthropologist of aging Gutmann (1997) once observed that two kinds of people are drawn into gerontology: "gerontophiles" who have had positive experiences with aging relatives and want to do good by old people and "gerontophobes" who, consciously or not, fear aging. These selection biases affect what "mainstream" gerontologists see and do as well.

### *Successful Aging*

The last century saw marked increases of the human life span that were met with increased research interests in uncovering factors for a higher quality of life in old age. These interests were also actively promoted by gerontologists to offer a counterpoint to earlier views of aging as an "inevitably bleak and unrelieved landscape characterized by irretrievable loss" (Maddox, 1994, p. 767). Negative views of aging and associations with "unproductivity, inflexibility, and senility," said pioneering gerontologist Butler (1974, p. 529), "must be changed if the elderly are to have more opportunities for successful aging."

Discussions about what constitutes successful aging have been ongoing in gerontology since the 1950s and 1960s (Havighurst, 1961; Havighurst & Albrecht, 1953; Williams & Wirths, 1965), yet there are no universally shared definitions or measures (see Depp & Jeste, 2006). One of the earliest explications was Havighurst's (1961) comparison of activity theory, which envisioned successful aging as the "maintenance as far and as long as possible of the activities and attitudes of middle age"; with disengagement theory, which envisioned successful aging as "the acceptance and the desire for a process of disengagement from active life" (p. 8). During the 1960s and 1970s, activity and disengagement theories received considerable attention and critique (see Maddox & Wiley, 1976). This era also saw attempts to establish empirical measures of successful aging (e.g., Neugarten's [1974] subjective measure of life satisfaction to account for individual and cultural differences, or Palmore's [1979] objective criteria of surviving to age 75 in good health, as well as a subjective judgment of happiness).

The late 1980s brought the influential framework offered by Rowe and Kahn (1987) who argued that the practice of

dichotomizing aging into pathological versus normal (or nonpathological) states did not fully capture the range of aging experiences. They instead differentiated "normal" aging into *usual* aging, in which individuals experience typical, nonpathological age-related changes but are at high risk for disease, and *successful* aging, in which nondiseased individuals experience high functioning and are at low risk for disease. As a result, this conceptualization was nonetheless rather one-dimensional in its focus on objective physical functioning.

A decade later, Rowe and Kahn's (1997, 1998) model, developed in conjunction with the MacArthur Research Network on Successful Aging, emphasized three components: (a) low probability of disease and disease-related disability, (b) high cognitive and physical functional capacity, and (c) active engagement with life. Each of these three components has been operationalized in a variety of ways, often into "high," "medium," and "impaired" ranges of functioning (Berkman et al., 1993), and the model has been applied in national (McLaughlin, Connell, Heeringa, Li, & Roberts, 2010) and cross-national (Hank, 2011) studies.

Rowe and Kahn's formulation, however dominant, has not been the only model of successful aging (see Depp & Jeste, 2006). Indeed, since the 1990s, the study of successful aging has been refined or expanded, often in response to criticism of Rowe and Kahn's model (Bond, Cutler, & Grams, 1995; Garfein & Herzog, 1995; Glass, Seeman, Herzog, Kahn, & Berkman, 1995; Kahana & Kahana, 1996). These perspectives turned attention to components such as self-efficacy (Strawbridge, Wallhagen, & Cohen, 2002), ability to conduct everyday activities (Menec, 2003), productivity (Glass et al., 1995), and spirituality (Crowther, Parker, Achenbaum, Larimore, & Koenig, 2002), among others.

Despite the growing variability in measures of successful aging, most frameworks have nonetheless continued to contain variants of the first two components proposed by Rowe and Kahn: low probability of disease and disease-related disability and high cognitive and physical functional capacity. Much of the literature on successful aging also suggests that these outcomes can be influenced by individual effort and specific actions (Angus & Reeve, 2006; Holstein & Minkler, 2003; Laliberte Rudman, 2006).

Although most models have defined success as an outcome, some have emphasized processes. Perhaps the most influential model in this regard is the goal-based tradition conceived by Baltes and Baltes (1990; see also Baltes & Carstensen, 1996; Baltes & Smith, 2003), the "SOC" model, which grounded successful aging in the interaction of three processes: *Selection* involves redirecting efforts and resources to certain goals and tasks while disengaging from other goals. This in turn allows individuals to *optimize* and strengthen the resources necessary for achieving selected goals. Aging individuals can also *compensate* for declining abilities and skills by



establishing new resources and strategies for maintaining desired outcomes. In these models, the assumption is that these self-regulatory processes grow crucial with age and have become more salient in the face of greater longevity (Freund, Nikitin, & Ritter, 2009; Rohr & Lang, 2009).

These models have been and continue to be criticized for being most applicable to the relatively healthy "third age" of life or "young old" populations rather than in the "fourth age" or for the "oldest old," which comes with significant constraints in functional capacity, frailty and psychological losses, and limited effectiveness of interventions. Others point out that they place too much emphasis on the passive reaction or adaptation of individuals to losses rather than proactive coping strategies that might prevent potential threats to begin with (Oewehand, de Ridder, & Bensing, 2007). Indeed, related research has countered these limitations by emphasizing "assimilative" (intention-based) efforts alongside "accommodative" (adjustment-based) efforts (Brandtstädter & Rothermund, 2002) or, similarly, "primary" control strategies alongside more "secondary" strategies (Heckhausen, Wrosch, & Schulz, 2010; Schulz & Heckhausen, 1996).

Any attempt to define "success" is fraught with competing interests and evaluations. The literature on successful aging has been further critiqued by critical gerontologists and others for being too anchored in the experiences of privileged groups, minimizing or neglecting significant variability and inequality in aging experiences (e.g., by gender, ethnicity, socioeconomic position, education, and other aspects of social location and cultural life; Calasanti, 1996, 2004; Estes, Biggs, & Phillipson, 2003). It has also been critiqued for imposing onto populations and individuals a set of standards or expectations that may not be desirable or attainable (Marshall, 2012; Martinson & Minkler, 2006; Minkler & Fadem, 2002). These critiques often focus on the neoliberal tendencies of the successful aging model, whereby it becomes the responsibility and even moral imperative of individuals to do everything they can to achieve "success" in aging at the risk of being blamed or held responsible for "failure" (Katz & Marshall, 2004).

Despite the contested meaning of "successful" aging, the popularity of the concept has had profound effects on the cultural, social, and economic constructions of aging. One might even argue that anti-aging practices have flourished precisely because the popularity of successful aging has created a space for them to do so. To what extent do the practice goals of anti-aging providers mirror the components of dominant models of successful aging? Our analyses of interviews with anti-aging practitioners reveal rhetorical overlap which, intentional or not, highlights some of the problematic consequences of efforts to reconceptualize old age.

## METHOD

We analyze data from a National Institutes of Health-funded project aimed at understanding efforts to

control human aging from the vantage points of scientists (biogerontologists), medical practitioners, and patients. Although more than 110 interviews were conducted overall, this article utilizes a subset of data from interviews with practitioners of anti-aging medicine. Institutional Review Board approval was granted through each of the participating researchers' institutions prior to data collection.

The sample of 31 anti-aging physicians and practitioners was drawn from the online directory of the American Academy for Anti-Aging Medicine, through which consumers can identify local anti-aging physicians, clinical centers, and products. A4M is the first hit in a Google search of anti-aging medicine (conducted September 13, 2012, although this has been true for the last 5 years). The A4M directory was intentionally chosen because it provided a sample of clinicians who are explicitly associated with the organization that has led the anti-aging medicine movement. Using the directory search function, we identified a total of 1,303 potential participants within the category "anti-aging health professionals" in the United States. Using a random sampling technique, every tenth entry was selected for a sample of 130 names on which to draw to meet our goal of 30 interviews.

Potential participants were mailed recruitment packets that described the overall study goal of understanding efforts to control human aging and indicated that we would contact them to schedule a telephone interview. The interviews were designed to assess how anti-aging medicine is practiced in the clinic and the orientation of its practitioners toward aging and medicine. While the public face of anti-aging medicine was readily available for analysis via A4M's website and other materials, we conducted this interview study in order to understand how practitioners were interpreting anti-aging medicine, what drew them to the field, and what the term meant to them. Eight packets were returned as undeliverable, yielding a final sample of 122 potential participants. We continued to recruit the remaining potential participants by mail and telephone. Interviews were conducted with practitioners after their initial response, thus the interviews conducted were with the first practitioners to respond to our requests.

We estimated that 30 in-depth interviews would allow us to capture a broad array of provider perspectives. As we reached this threshold, we assessed the completed interviews, which had already been coded and, based on that initial review, decided that additional interviews would not likely yield novel perspectives. We stopped following up with nonresponders and completed those interviews that had been scheduled. Perspectives of nonresponders cannot be generalized from our self-selected participants and thus limits the generalizability of our results.

Of the 31 final participants, 19 (61%) were men and 12 (39%) were women. Twenty-three (74%) reported themselves as white/Caucasian, three as Hispanic, two as black,



and one as Asian. (Two respondents did not report race/ethnicity.) Interviewees ranged in age from 33 to 71. Most (71%) reported a medical degree (MD) as their primary credential, with the remaining being Doctors of Naturopathy (ND), Doctors of Osteopathic Medicine (DO), and Nurse Practitioners (NP). The sample included a range of specializations, including seven general internists; three obstetricians; and the remainder from dermatology, emergency medicine, immunology, neurology, psychiatry, radiology, and reproductive endocrinology. Nineteen (61%) operated cash-only practices and the rest accepting some form of insurance for some services.

Semistructured interviews took place between March and August 2008 and ranged from 41 min to over 2 hr. This article draws heavily on our analysis of specific interview questions that probed participants' descriptions of their "goals" for how they practice medicine; "goals" for their patients; characteristics of patients; general and specific treatment strategies; how their approaches are similar to or different from "conventional medicine"; and whether they view aging and age-related disease as one and the same.

All interviews were transcribed and imported into Atlas.ti, a software program for qualitative data analysis. The three members of the research team who conducted the interviews also coded the data. All coders have advanced degrees in social science (sociology and anthropology) and have had graduate training in qualitative research methods. Intercoder reliability was achieved through a process whereby two members of the research team coded each transcript independently. Disagreement among coders was resolved through discussion with the entire research team and further refinement of code descriptions and coding rules.

First-level coding was done for particular questions, meaning that codes are developed inductively, then grouped, and categorized (Miles & Huberman, 1994). For example, coding for responses to the interview question "Can you tell me about the range of professional services you provide?" resulted in first-level "modality" codes whereby we categorized specific treatments (e.g., holistic, exercise, hormonal). These first-level codes were then connected to higher-order "interpretive codes" (Miles & Huberman, 1994). Following the example mentioned earlier, specific treatment modalities were linked to codes that reflected the practitioner's goals for that treatment form (e.g., risk management, prevention, longevity).

As coding continued through an iterative process, we began to notice the similarities between the descriptions that anti-aging practitioners were providing about their goals for their patients and the aforementioned goals of "successful aging" (with which members of the research team had previous experience). This finding, therefore, became a "sensitizing concept" (Blumer, 1954; Glaser & Strauss, 1967) that guided our analysis for this article. A sensitizing concept, as explicated in grounded theory in particular, is often the

background idea that lurks within a qualitative study or more often, as used here, becomes one way of seeing, interpreting, and analyzing qualitative data once coding has commenced (Bowen, 2006). Sensitizing concepts—in this case the similarities and differences between successful aging and anti-aging medical practices—become the foundation for analyzing the research data. As is common in qualitative analysis, we toggled between the extant literature and our empirical findings and coded material to develop an analysis of how anti-aging practitioners position themselves vis-à-vis the fields of (anti-)aging and biomedicine.

## RESULTS

Practitioners offer myriad terms to describe the kind of care they provided: "age management," "preventative medicine," "functional medicine," "wellness medicine." However, none of these practitioners either described their work as promoting "successful aging" or volunteered it as a conceptual tool that informs their practice. With few exceptions, they said they are not attempting to aggressively extend human life or completely eliminate senescence. Only two practitioners stated that the ultimate goal should be to push the human life span to or beyond its natural limit. Instead, anti-aging practitioners emphasized *disease prevention* and *maintaining quality of life*, two components of dominant successful aging models. The third piece within successful aging, *active engagement in life*, was not emphasized directly. However, the use of hormone supplementation as a primary mode of treatment can be seen as a way in which anti-aging practitioners attempt to increase engagement in life for their patients.

### *Emphasis on Prevention*

One of the most common themes to emerge from our data was how practitioners described their goals: to prevent disease and disability rather than to stop or reverse aging itself. Many practitioners said that cumulative inattention to health and disease prevention were largely to blame rather than the simple passage of time or aging per se:

Most of what they call age-related disease are things that come from lifestyle choices that have been made, and so I don't think you have to get those diseases. I think they can be prevented, which is what I think anti-aging medicine is trying to do. It's trying to help people change their lifestyles and live better so they don't get age-related diseases. (NP 25)

Prevention of disease is presented as the ultimate goal and hallmark of their care. Although bodies change and health becomes harder to manage, preventative treatment, this provider believes, can stave off problems and optimize health. The language of prevention was pervasive in all of our interviews, both in relation to specific diseases and the more general goal of postponing or alleviating problems that they think are often misattributed to aging.



Even for those few practitioners who subscribed to the belief that there *are* certain inevitable diseases that accompany aging, prevention nonetheless remained the route to battling them:

There are universal diseases of aging that happen with everybody . . . such as arterial sclerosis, diabetes Type II, hypertension . . . cancer. Those . . . will happen in any being living long enough to actually acquire these diseases. So obviously this prevention of the development or accelerated development of these diseases is I think the goal of our anti-aging medicine. (MD 2)

Regardless of whether physical declines associated with aging were viewed as inevitable, these declines were described as being primarily due to lifestyle habits. The solution is therefore to combat health declines with purportedly prevention-based treatments tailored to the individual. It is here that practitioners saw themselves as departing from conventional medical practitioners, whom they say are too focused on treating illness and its symptoms:

[I]t should be our job to aggressively pursue prevention, that if we're doing our job with our patients, we should be able to lower their disease risks to the greatest degree possible in medicine today, and not just wait until they're in a high risk group. Too much of the time, we believe that medicine waits for somebody to get diabetes and then does something about it, instead of saying "You look like you're walking in the wrong direction on this. Let's turn you around." So we get really aggressive. (MD 21)

However, while anti-aging practitioners often contrasted their approaches to those of "mainstream" providers, they did not necessarily see themselves in opposition to conventional medicine. Rather, they claimed to draw on approaches both inside and outside of mainstream medicine, frequently employing standard and accepted methods and therapies with more controversial ones:

I do not consider myself an opponent of conventional medicine. I think that conventional medicine takes part, let's say takes 80% part of treating people . . . but I think that there are certain influences that could be much more mild and much more beneficial to the body. I'll try to postpone or I try to eliminate the need for conventional medical treatment . . . [But] obviously I utilize my conventional medical knowledge in order to make sure that if the patient requires conventional medicine, he doesn't go untreated. (MD 2)

One of the ironic undercurrents of this stance toward prevention and conventional medicine, then, is the prevalent attitude that it is never too early to begin preventative medicine and therefore the argument that everyone, at every age, would benefit from an anti-aging practitioner. So, although anti-aging practitioners may criticize mainstream physicians

for overtreating with traditional pharmaceuticals, those we interviewed were even more likely to prescribe a highly regimented and demanding treatment protocol in the name of prevention and "maintenance."

### *Maintaining Quality of Life*

Alongside prevention of disease, practitioners saw their primary goal to be the maintenance of patient quality of life. On several occasions, this was exemplified by a comparison of the physical body to a house or to other material objects that break down over time. To quote one practitioner, "you can buy the finest mansion in your hometown, and if you don't do anything to it for 30 years, it's going to fall apart" (MD 5). Similarly,

What we do . . . does not extend the human life span. We don't talk about making you live longer. That's all nonsense. But what we do see happening is that we can prevent people from having high blood pressure and high cholesterol issues. We can help them maintain their weight. We can improve the quality of their life, their libido, their sexual response, get them off those antidepressants. That's the type of thing that we see every day in our practice. (MD 24)

Many practitioners, in fact, describe their particular brand of medicine as "functional medicine" rather than anti-aging medicine. As one explained, "the purpose . . . is to have my patients function higher physically, mentally, and sexually. That is the context for the work, and I achieve that by using medicine, nutrition, technology and lifestyle interventions" (MD 3). Another said, "the idea is to rectangularize it, kind of make it optimal all the way through, and when you go, you go quickly" (DO 10). By maintaining functioning, practitioners say they are ensuring high quality of life:

The scientists right now tell us that the lifespan of a human is about 120 years, but let's say at 118, 119 years you can be out, I don't know, you want to play tennis, you want to play golf, you want to do gardening, you want to do hiking, skiing, whatever. If someone could tell you that at the age of 118, 119 you still could be doing that, wouldn't your added years be worth it? (MD 22)

Even the few practitioners who believe that disease and disability are inevitable do not believe that significant losses in daily functioning are inevitable. What gets in the way, they claim, is the belief among conventional doctors and the public that functional losses are "normal" parts of aging and must be accepted as such:

I do run into a lot of people that had no idea about what is out there that can help them. They just accept the fact that as soon as they're at 40, they are supposed to be feeling exhausted, tired, and have no sexual desire and have to nod and sleep when they are watching TV, and they have to start forgetting things, and then they just accept it without looking into what things can we do to minimize that effect



or delay it as much as we can. There is a lot of education that needs to be done in that aspect. (MD 14)

Although they do not use the term “compression of morbidity” as a goal for their patients, anti-aging practitioners are describing a concept familiar and desirable to gerontologists and biogerontologists alike (Binstock, 2004; Fishman, Binstock, & Lambrix, 2008). The difference is that anti-aging practitioners are more willing to use controversial and unproven techniques to try to achieve this goal.

### *Hormones and the “New” Normal*

For most anti-aging practitioners we interviewed, hormonal supplementation (e.g., estrogen, testosterone, thyroid, human growth hormone) for both men and women is a chief mode of intervention for achieving the “quality of life” and level of functioning that they described earlier: a treatment that skirts the line between prevention and treatment in an attempt to delay the effects of aging. Among practitioners, hormonal treatments were described as a panacea of sorts, primarily for providing relief to those who have undesirable aging symptoms (e.g., lack of energy, menopausal symptoms, low libido). This runs counter to their above claims that morbidity compression is their primary goal because the long-term effects of bioidentical hormone replacement are largely unknown and there is little evidence to suggest that it *prevents* the chronic diseases mostly closely associated with aging. The measurement, monitoring, and treatment of hormonal imbalance are central components of anti-aging medicine and a departure from much of conventional medicine. Although nearly all practitioners indicated that they rely on some hormonal treatments, most were also guarded in their descriptions of their prescription practices. For example,

[Internet advertising] makes it look like any of us who are serious [about anti-aging] believe that human growth hormone is some fountain of youth or something and that that's the key to, you know, aging well, and I don't think very many of us . . . would say anything like that. It's about hormone balance. If one of our absolutely preemptive goals is prevention, then I'm going to really be pretty conservative 'cause I don't want to take risks. (MD 21)

As these practitioners saw it, hormonal treatments allow individuals to bypass the need for significant adaptation as they age. “Balancing,” then becomes a euphemism for elevating patients' hormone levels to mimic their younger selves, rather than expecting individuals to adapt to age-related hormonal declines. What more conventional practitioners may treat as inevitabilities of aging—depression, fatigue, loss of sexual drive, forgetfulness, muscle loss—were understood by anti-aging practitioners to be the result of hormone deficiencies, remedied with exogenous hormonal supplements. They claimed that the functional gains brought about by hormone treatments

enable patients to participate more fully in the activities they most value. However, few discussed whether these gains come at a cost to longer term health outcomes and diseases or undesired side effects despite emerging evidence (Curcio, Wollner, Schmidt, & Kim, 2006; Liu et al., 2007; Molitch et al., 2011).

As part of their ongoing patient monitoring and emphasis on “optimal” health, anti-aging practitioners said they are apt to treat or intervene when an individual's test levels are on “the low side of normal,” especially if their patients are experiencing symptoms. Despite the desire to be “conservative,” as espoused by the practitioner above, many of the practitioners we interviewed were less conservative, prescribing hormones even when lab tests showed “normal” levels.

[Patients] may have normal thyroid labs, but they may be at the low end of the normal range . . . and we'll tend to be a little more aggressive and bring them up to the upper end of normal . . . which is again quite different from mainstream medicine . . . You know most of these people have been bounced around from one doctor to another and they won't give them thyroid medication 'cause their labs are “within normal range.” (MD 7)

[O]ur understanding of what is optimal hormone levels has changed over time, and we know that when people are in a sub-optimum state hormonally, their body drifts rapidly towards disease . . . What is something that would make you feel the way you should feel? Is it the upper limit of normal, or is it something that is much closer to the lower end of normal? (MD 24)

The reported functional gains that result from hormonal treatments also address one of the primary symptoms that brought patients to their practices: lack of energy. Patients, they said, seek to regain “lost energy” for fear that they will become “aged”:

And the big thing is “I want to have more energy. I want to be able to enjoy the life I have. I want to live long, but I want to live well. I don't want to be in a nursing home” . . . and that's the sort of thing they talk about . . . Mom and Dad were great, but let's face it. They sat around and they played cards; they wound up in a nursing home; they didn't do much; they made the early bird special. I mean [my patients] don't want that life. (MD 13)

These practitioners generally did not work with patients on their relationships or social activities. But they saw having “energy” as a key element in being able to maintain and enjoy personal relationships and “young” social activities, like travel:

When people are energetic about life again, people look in the mirror and they see some chiseled features and they begin to have energy and they want to go and travel and enjoy their children again, that's extremely rewarding. (DO 20)



Although purportedly responding to their patients' desires, anti-aging practitioners, in so doing, reinforced normative ideas about what it is to "age well" and why it should be a shared aspiration for everyone. Sitting around a nursing home playing cards is seen as undesirable, while global travel, gardening, playing golf are all activities of living to aspire to and signs that one is aging well.

Practitioners strongly emphasized the individual benefits of anti-aging medicine, but they also pointed out societal benefits in the process. These higher-order societal benefits, however, were secondary to individual ones: a downstream benefit of greater physical health and energy. Anti-aging medicine presumably allows individuals to live independently for longer and, in particular, to increase work years and productivity and familial obligations well beyond the traditional retirement age. This would foster the wellbeing of societies through better physical and cognitive aging:

If you live better longer and don't suffer from the infirmities associated with bad aging, like arthritis and diabetes and high blood pressure and cancer and Alzheimer's, if you live without those illnesses, you're going to feel better. You're going to be more productive. Economically the country will benefit. You'll have less obesity and arthritis, things that slow us down. It'll be much better for the economy, for the country and for the people in the country. (MD 16)

I see it, it's really adding to people's quality of life and it allows people to be more present, to be a value to society. Either that means in terms of your own pleasure, or continuing work, or social service or somewhere. Meaning if people are feeling good, they're spending less Medicare dollars, they're going out and being more active, and you hopefully being of some value to society in some way. (ND 15)

Practitioners were quick to identify the potential societal benefits of bringing anti-aging medicine to the masses, but failed to point out some of the other potentially detrimental social implications of anti-aging medicine that have been discussed by critics, including broader social justice and access issues and the competition that older employees may face in the workforce compelling them to seek out untested and costly therapies, to name a few.

## DISCUSSION

One of the common critiques that gerontologists have of anti-aging medicine is that its practitioners are, in effect, "against" aging—or worse, against aged adults (Settersten et al., 2008). However, with their emphasis on prevention and functionality, these practitioners distanced themselves from the aversion to aging that the name of their specialty would imply. Part of this distancing is seen in the use of terms *other* than "anti-aging" to describe their work. And yet none of these practitioners explicitly used the term "successful aging," despite the fact that many of the ways that they describe their vision of aging mimic the tenets of

"successful aging." We have no indication that these practitioners are aware or cognizant of this area of gerontology, which only elicits further interest in considering these similarities and differences.

Unwittingly appropriating much of the language of gerontology and the rhetoric of successful aging, the majority of the anti-aging practitioners we interviewed spoke not about life extension but about their imagery of what life and health should look like as we age. Echoing Fries' (2005) concept of compression of morbidity, practitioners generally focused on "rectangularizing the curve" by helping patients reduce the risk of disease and disability through prevention and maintaining high levels of physical and cognitive function. They saw their goal as helping patients continue to do what they have always been able to do to remain productive.

However, unlike scholars of successful aging, anti-aging practitioners did not value the importance of social connectedness and support as contributing factors to producing physical and mental health. Instead, employing a more traditional biomedical model, they view social activities as important but subsequent *benefits* of low disease and disability and high functioning. Yet, even in models of successful aging, psychosocial variables take a back seat to low risk of disease and disability and high cognitive and physical functioning (Depp & Jeste, 2006). The assumption within successful aging, even, is that low disease and disability and high functioning make high social engagement more likely, similar to the views of our anti-aging practitioners.

The appropriation of the language of successful aging by anti-aging practitioners illustrates the degree to which the successful aging paradigm has traveled to outside domains, even affecting consumers' desires and conceptualizations of aging. There is evidence here to suggest that the ideal vision of aging that many people in their 40s, 50s, and 60s currently have reflects the vision espoused by successful aging. There is perhaps further evidence to suggest that anti-aging practitioners have responded to this demand by developing anti-aging therapies designed to achieve these goals. The prominence of common components of the successful aging model in the goals of anti-aging practitioners would seem to signal the widespread infusion of mainstream models of successful aging into contemporary medicine and culture. Our analysis, therefore, illustrates the largely rhetorical tension between these two groups. If we take these practitioners at their word, then the goals of anti-aging medicine to stave off disease and encourage prevention and the maintenance of functioning well into old age should result in little opposition from gerontologists. The ideals that later life can be a period of sustained healthy vigor and the rejection of disengagement from society as one ages, two ideals that Moody (2005) subsumed under the label of the "New Gerontology," are in sync with what the practitioners claim as the goals of their individual anti-aging practices.



It would be misleading, however, to characterize these practitioners as a group of medical professionals who are simply heeding the call of the successful aging model by putting it into action. While the two groups may have remarkably similar goals on the surface, they diverge markedly in their views of the acceptability of particular interventional strategies. Our goal in this article has been to explore how practitioners of anti-aging medicine operationalize the rhetoric and develop a "practice" with real patients who have their own goals and desires.

Gerontologists and others have contributed to a considerable body of literature that warns about the potential danger of using certain anti-aging therapies, as discussed earlier. Treatments that practitioners might portray as "cutting edge" may be unproven, ineffective, and even harmful. The use of hormones is particularly controversial—and a significant point of criticism from gerontologists. The potentially dangerous and illegal uses of dehydroepiandrosterone and human growth hormone for anti-aging purposes have been heatedly debated and accompanied by calls to better protect consumers (Mehlman, Binstock, Juengst, Ponsaran, & Whitehouse, 2004).

Anti-aging practitioners were also willing to prescribe and administer treatments for individuals whose laboratory tests and levels of functioning fall within the "normal" clinical range. For these practitioners, definitions of "normal" inherently differ across individuals, and such judgments must be made relative to an individual's baseline and symptomatology, not to what is typical or optimal in the larger age group to which one belongs. This is a departure from dominant models of successful aging, which suggest that the degree to which one successfully ages *can* be measured using preset, age-specific ranges for "usual" or "successful." This departure also contradicts the implicit assumption in "SOC" and other models of successful aging, which suggest that aging brings declines in functioning that demands accommodation and compensation. Instead, these practitioners claim that—with the proper aid of an anti-aging practitioner—these demands vanish as levels of prior functioning are maintained.

Of course, our job as analysts of this emergent field is to evaluate our data critically, to question what practitioners say and how they present themselves: they have a vested interest in portraying their practices and treatments as being conservative in order to distance themselves from some of the more controversial aspects of anti-aging medicine and the A4M that have garnered national media attention (Wilson, 2007). Yet, we also recognize that they have capitalized on the A4M in the process, in seeking training and in building their practices with their affiliation. This only reinforces the fact that market forces are at play and there is much at stake—status and resources—in anti-aging medicine (Vincent, 2013; Weintraub, 2010).

The persistent tension for gerontologists, then, is not likely to be found in differences in the end goals of successful aging and anti-aging medicine, but instead in

the controversial strategies that anti-aging practitioners use to achieve those goals and the appropriation of successful aging in the process. The mission of A4M, which once so firmly distanced itself from what it called the "death cult of gerontology," is to dedicate itself "to the advancement of technology to detect, prevent, and treat aging related disease and to promote research into methods to retard and optimize the human aging process" (A4M, 2013b). A cynical reader could view A4M's public presentation of its mission as an instrumental attempt to increase legitimacy, seek mainstream appeal, build a patient base, and distance themselves from extremists. However, by claiming uncontroversial goals, anti-aging practitioners may be simultaneously trying to erode the boundary that separates it from both mainstream gerontology and conventional medicine.

Yet, this development may be infuriating to gerontologists who have fought long and hard to change society's views about aging only to have their rhetoric co-opted by anti-aging medicine, a movement that has set itself apart from the traditional scholars and practitioners of aging and working on behalf of aged adults. However, gerontologists also eschew the terms "old person," "old people," and "old age" for fear that they seem disrespectful or promote a negative and homogenized view of this period of life and the people in it (Settersten, 2005). Instead, gerontologists opt for terms such as "older adults" or "later life." These dynamics result in an ideology of "agelessness," itself a kind of ageism, in which old age is viewed as something that can be transcended and which ultimately denies old people "one of their most hard-earned resources: their age" (Andrews, 1999, p. 301). Ironically, in avoiding the term "old" and in placing a premium on agelessness, gerontologists embody a stance that is not a far leap from "anti-aging."

Anti-aging medicine and successful aging have been targets of the same criticisms. Both have been criticized for overemphasizing the role of individual responsibility for aging well (Holstein & Minkler, 2003). Both suggest that aging is a process into which individuals can and should intervene, which reinforces the problematic idea that one can fail at aging just as one can succeed at it. In doing so, both also risk characterizing aging as naturally undesirable by default—as well as preventable (Juengst, 2004; Kaufman, Shim, & Russ, 2004). Neither operates in ways that are sensitive to cultural constructions of aging or social inequalities. Anti-aging practitioners commend their patients for fighting the declines associated with aging, whereas largely ignoring the fact that the socioeconomic status of their patients confers advantages and options that are not available to those who are less privileged, namely to pay for services in cash-only practices. Similarly, many models of successful aging offer overly positive views of aging that overlook serious hardships and inequalities that are a reality for many older people, as critical gerontology has pointed out (Katz, 2001–2). The joint emphasis on individuals in both successful aging



and anti-aging can be seen to reflect postmodern constructions of the aging individual beginning with the baby boomer cohorts in the United States that emphasize the priorities of a consumer society (staying productive by working and spending) and personal responsibility for health and welfare (Dillaway & Byrnes, 2009; Katz, 2001–2).

Despite these similarities, the contention between gerontology and anti-aging medicine remains. Perhaps the biggest impediment to accepting anti-aging medicine as a route to successful aging, or to seeing anti-aging medicine as a bed-fellow of gerontology, is due to the market-based and consumer-driven underpinnings of the anti-aging industry. It is hard not to be suspect of what is being said and done when there is so much money to be made and where profit seems to be the motivating force. Yet, like it or not, proponents of various models of successful aging have played an unintentional role in promoting the consumption of anti-aging products writ large, whether from cosmetics to hormones or from Viagra to iPhone apps for “brain fitness.” The reality is that strong consumer markets have arisen around successful aging and “successful living”: markets that are founded on the belief that it is possible, acceptable, and even necessary to intervene into the aging process in order to optimize aging experiences.

It would also be naive to believe that the science of aging is somehow purely noble. The practice of science, even social science, is fraught with conflicts of interest and competition for resources, professional advancement and recognition, and power. And in our media-saturated culture, these competitions often take place in the public eye and to gain public support and approval. This seems especially poignant for gerontology, where the task of understanding, improving, and intervening into aging remains one of the greatest puzzles known to the human race.

#### FUNDING

This work was supported by the National Institute on Aging and the National Human Genome Research Institute (1R01 AG020916-04A1).

#### AUTHOR CONTRIBUTIONS

M. A. Flatt helped implement the study, including instrumentation, assisted in data collection and analysis, and co-wrote the article. R. A. Settersten Jr. helped plan the study, including its conceptualization, methods, and instruments, and co-wrote the article. R. Ponsaran helped collect and analyze data and contributed some original and revised text. J. R. Fishman helped plan the study, including its conceptualization, methods, and instruments, and contributed some original and revised text.

#### ACKNOWLEDGMENTS

This article would not have been possible without the intellectual contributions of dear friend and mentor Robert H. Binstock (December 6, 1935–November 22, 2011). The authors wish to thank the other members of our research team for their integral contributions to the data collection: Marcie Lambrix and Eric Juengst.

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