



Generations and Generational Differences: Debunking Myths in Organizational Science and Practice and Paving New Paths Forward

Cort W. Rudolph¹ · Rachel S. Rauvola² · David P. Costanza³ · Hannes Zacher⁴

Published online: 4 September 2020

© Springer Science+Business Media, LLC, part of Springer Nature 2020

Abstract

Talk about generations is everywhere and particularly so in organizational science and practice. Recognizing and exploring the ubiquity of generations is important, especially because evidence for their existence is, at best, scant. In this article, we aim to achieve two goals that are targeted at answering the broad question: “What accounts for the ubiquity of generations despite a lack of evidence for their existence and impact?” First, we explore and “bust” ten common myths about the science and practice of generations and generational differences. Second, with these debunked myths as a backdrop, we focus on two alternative and complementary frameworks—the social constructionist perspective and the lifespan development perspective—with promise for changing the way we think about age, aging, and generations at work. We argue that the social constructionist perspective offers important opportunities for understanding the persistence and pervasiveness of generations and that, as an alternative to studying generations, the lifespan perspective represents a better model for understanding how age operates and development unfolds at work. Overall, we urge stakeholders in organizational science and practice (e.g., students, researchers, consultants, managers) to adopt more nuanced perspectives grounded in these models, rather than a generational perspective, to understand the influence of age and aging at work.

Keywords Generations · Generational differences · Constructionist perspectives · Lifespan development

People commonly talk about generations and like to make distinctions between them. Purported differences between generations have been blamed for everything from declining interest in baseball (Keeley, 2016) to changing patterns of processed cheese consumption (Mulvany & Patton, 2018). In the workplace, generations and generational differences have been credited for everything from declining levels of work ethic (e.g., Cenkus, 2017; cf. Zabel, Biermeier-Hanson, Baltes, Early, & Shepard, 2017), to higher rates of “job-hopping” (e.g., Adkins, 2016; cf. Costanza, Badger,

Fraser, Severt, & Gade, 2012). Despite their ubiquity, a consensus is coalescing across multiple literatures that suggests that all the attention garnered by generations and generational differences (e.g., Lyons & Kuron, 2014; Twenge, 2010) has been “much ado about nothing” (see Rudolph, Rauvola, & Zacher, 2018; Rudolph & Zacher, 2017). That is to say, the theoretical assumptions upon which generational research is based have been questioned and there is little empirical evidence that generations exist, that people can be reliably classified into generational groups, and, importantly, that there are demonstrable differences between such groups that manifest and affect various work-related processes (Heyns, Eldermire, & Howard, 2019; Jauregui, Watsjold, Welsh, Ilgen, & Robins, 2020; Okros, 2020; Rudolph & Zacher, 2018; Stassen, Anseel, & Levecque, 2016). Indeed, a recent consensus study published by the National Academies of Sciences, Engineering, and Medicine (NASEM) concluded that “Categorizing workers with generational labels like ‘baby boomer’ or ‘millennial’ to define their needs and behaviors is not supported by research, and cannot adequately inform workforce management decisions...” (NASEM, 2020a; see also NASEM, 2020b).

✉ Cort W. Rudolph
cort.rudolph@health.slu.edu

¹ Department of Psychology, Saint Louis University, St. Louis, MO, USA

² Department of Psychology, DePaul University, Chicago, IL, USA

³ Department of Organizational Sciences & Communication, The George Washington University, Washington, D.C., USA

⁴ Institute of Psychology – Wilhelm Wundt, Leipzig University, Leipzig, Germany

Of equal importance to the theoretical limitations, common research methodologies used to study generations cannot unambiguously identify the unique effects of generations from other time-bound sources of variation (i.e., chronological age and contemporaneous period effects). Given all of this, some have argued that there has never actually been a study of generations (Rudolph & Zacher, 2018), and thus, the entire body of empirical evidence regarding generations is, to a large extent, wrong. Still, it is easy to find examples of empirical research that claim to find evidence in favor of generational differences (e.g., Dries, Pepermans, & De Kerpel, 2008; Twenge & Campbell, 2008; Twenge, 2000; see Costanza et al., 2012, for a review) and theoretical advancements that aim to direct such empirical inquiries (e.g., Dencker, Joshi, & Martocchio, 2008). Moreover, some see generations as a useful *heuristic* in the process of social sensemaking: generations are recognized as social constructions, which help give meaning to the complexities and intricacies of aging and human development in the context of changing societies (e.g., Campbell, Twenge, & Campbell, 2017; Lyons, Urick, Kuron, & Schweitzer, 2015).

Considering all of this, we are faced with a variety of competing and contradictory issues when trying to sort out what bearing, if any, generations have on organizational science and practice. On the one hand, evidence for the existence of generations and generational differences is limited. On the other hand, the idea of generations is pervasive and is used to explain myriad patterns of thinking, feeling, and behaving that we observe day-to-day, especially in the workplace. Thus, there exists a tension between what science “says” about generations and what people “do” with the idea of generations. Given this, the continued popularity of generations as a means of understanding work-related processes is worthy of closer investigation. This popularity begs the question, “What accounts for the ubiquity of generations, despite a lack of evidence for their existence and impact?” This manuscript explores two answers to this question.

One answer to this question is a lack of knowledge about what the science of generations tells us, leading to misunderstandings of the evidence about generations, their existence, and their purported impact. Thus, the first goal of this article will be to review and debunk ten common myths about generations and generational differences at work and beyond. A second answer to this question is a lack of knowledge regarding, and exposure to, alternative theoretical explanations for understanding (a) the role of age and aging at work and (b) the persistence of generations as a tool for social sensemaking. More specifically, we argue that, owing to a lack of knowledge about alternative explanations and supported by their ubiquity and popular acceptance (e.g., in the popular business and management press; see Howe & Strauss, 2007; Knight, 2014; Shaw, 2013), generations are more often than not the “default” mode of explanation for complex age-related

phenomena observed in the workplace and beyond (e.g., because they are familiar and comfortable explanations, which are easy to adopt, and seem legitimate on their face).

Accordingly, the second goal of this paper is to further advance two alternative models for understanding age and aging at work that do not rely on generational explanations and that can explain their existence and popularity—the social constructionist perspective and the lifespan development perspective. This is an important contribution, because simply pointing out the obvious pitfalls of generations and generational explanations can only go so far toward changing the way that people think about, talk about, study, and enact practices that involve generations. Just advising people to drop the idea of generations without providing alternative models would be counterproductive to the goal of enhancing the credibility of organizational science and practice. Thus, our hope is that by providing workable alternatives to generations, researchers and practitioners will be encouraged to think more carefully about the role of age and the process of aging when enacting the work that they do.

The social constructionist perspective offers that generations and differences between them are constructed through both the ubiquity of generational stereotypes and the socially accepted nature of applying such labels to describe people of different ages (e.g., consider the recent “OK Boomer” meme; Hirsch, 2020). The social constructionist perspective helps address and explain the question of why generations are so ubiquitous. Complementing this, the lifespan perspective is a well-established alternative to thinking about the process of aging and development that does not require one to think in terms of generations. The lifespan perspective frames human development as a lifelong process which is affected by various influences—not including generations—that predict developmental outcomes. Despite its longstanding role in research on aging at work (e.g., Baltes, Rudolph, & Zacher, 2019), the lifespan perspective has been infrequently considered as an alternative model to generations, perhaps because it has not often been treated in accessible terms.

These complementary approaches—the social constructionist and the lifespan development perspective—offer alternative paths forward for studying age and age-related processes at work that do not require a reliance on generational explanations. Thus, as described further below, these perspectives by-and-large circumvent the logical and methodological deficiencies of the generations perspective. They also offer actionable theoretical and practical guidance for identifying the complexities involved in understanding age and aging at work.

First, we outline and “bust” ten myths about generations and generational differences (see Table 1 for a summary). These myths were chosen in particular, because we deemed them to be the most pressing for research and practice in the organizational sciences, broadly defined, in that they reflect

Table 1 Summary of ten myths about generations and generational differences

Myth	Reality
Myth #1: Generational “theory” was meant to be tested	<ul style="list-style-type: none"> - The sociological concept of “generations” has been re-characterized and misappropriated over time. - Generational “theory” is not falsifiable, nor was it intended to be. - Culture, and the generational groups it forms and is formed by, cannot be disentangled.
Myth #2: Generational explanations are obvious	<ul style="list-style-type: none"> - The mechanisms by which generations emerge are oversimplified in the literature. - Explanations for social phenomena are more likely associated with other time-based sources of variation than generations. - Sources of time-based variability are often conflated and confused with one another in popular discourse and in research.
Myth #3: Generational labels and associated age ranges are agreed upon	<ul style="list-style-type: none"> - The specific birth year ranges that define each generational grouping vary substantially. - There are notable differences in the ways researchers address cross-cultural variability in generational research. - Inconsistencies in labeling have significant conceptual and computational implications for the study and understanding of generations.
Myth #4: Generations are easy to study	<ul style="list-style-type: none"> - The conceptualization of generations as the intersection of age and period make them impossible to study. - There exists no research design that can disentangle age, period, and cohort effects. - Artificially grouping ages into “generations” does nothing to solve the confounding of age, period, and cohort effects.
Myth #5: Statistical models can help disentangle generational differences	<ul style="list-style-type: none"> - No statistical model exists that can unambiguously identify generational effects. - As long as age, period, and cohort are defined in time-related terms, they will be inextricably confounded with one another. - This issue has befuddled social scientists for so long that it has been called “a futile quest.”
Myth #6: Generations need to be managed at work	<ul style="list-style-type: none"> - Research generally does not and cannot support the existence of generational differences, so there is nothing to “manage” in this regard. - Organizations open themselves up to an unnecessary liability if they manage individuals based on generational membership. - The focus should be shifted toward managing <i>perceptions</i> of generations rather than generations themselves.
Myth #7: Members of younger generations are disrupting work	<ul style="list-style-type: none"> - Blaming members of younger generations for changes in the work environment is a form of uniqueness bias. - Generationalized beliefs have a remarkable consistency across recorded history. - Changes are more likely reflexive of the contemporaneous environment and the innovations and unexpected changes therein.
Myth #8: Generations explain the changing nature of work (and society)	<ul style="list-style-type: none"> - Generations give a convenient “wrapper” to the complexities of age and aging in dynamic environments. - Generations are highly deterministic. - It is more rational and defensible to suggest that individuals’ age, life stage, social context, and historical period intersect across the lifespan.
Myth # 9: Studying age at work is the antidote to the problems with studying generations	<ul style="list-style-type: none"> - Age and aging research are neither remedies for nor equivalent approaches to the study of generations. - Despite its limitations, aging research draws on sound theories, research designs, and statistical modeling approaches. - Studying age alone is not a substitute for generational research; rather, it transcends generational approaches and engenders more useful and tenable conclusions for researchers and practitioners alike.
Myth #10: Talking about generations is largely benign	<ul style="list-style-type: none"> - Talking about generations is far from benign: it promotes the spread of generationalism, which can be considered “modern ageism.” - Generationalism is defined by sanctioned ambivalence and socially acceptable prejudice toward people of particular ages. - Use of generations to inform differential practices and policies in organizations poses great risk to the age inclusivity, and the legal standing, of workplaces.

commonly highlighted topics, and bear potential risks if not properly addressed. Then, we introduce and outline the core tenets of the social constructionist and lifespan development perspectives, giving examples of how their applications can

complement each other in supplanting generational explanations in both science and practice. Finally, we conclude by drawing lines of integration between these two perspectives, in the hopes that these alternative ways of thinking will inspire

researchers and practitioners to adopt alternatives to thinking about aging at work in generational terms.

Debunking Ten Myths About Generations in Organizational Science and Practice

Myth #1: Generational “Theory” Was Meant To Be Tested

The sheer number of empirical studies purporting to test generational “theory” would suggest that such theory was intended for testing. However, this is far from the case. The concept of generations as we know it stems from early functionalist sociological thought experiments, derived from foundational work by Mannheim (1927/1952) and others (e.g., Ortega y Gasset, 1933; see also Kertzer, 1983). Adopting the term in a largely historical, rather than familial or genealogical, sense, these authors offered “generations” as social units that account for broad societal and cultural change. Generations were suggested to emerge through “shared consciousness,” which developed across individuals (e.g., those at similar life stages) after common exposure to formative events (e.g., political shifts, war, disaster; see Ryder, 1965). This consciousness, in turn, was theorized to shape unique values, attitudes, and behaviors that characterize a given generation’s members, especially to distinguish one generation from its predecessor. These attributes subsequently impact how these individuals interact with and influence society.

Here, a tautology emerges: culture begets generations and generations beget culture. This is a potentially useful perspective for describing macro-scale interactions between social groups and the social environments in which they live—that is, it is useful as a functionalist sociological mechanism, as the concept of generations was intended. However, this perspective also implies that culture, and the generational groups it forms and is formed by, cannot be disentangled. Generational “theory” is not falsifiable, nor was it intended to be. Attempts to empirically study generations have extended these ideas into positivist and deterministic practices for which they were not intended. Even life course research (e.g., Elder, 1994), which centers on the impact of social change and forces on individuals’ lives as opposed to societal change, does not directly “test” for generational differences, *per se*. Instead, it uses generations conceptually in explicating the roles that historical, biological, and social time play in life trajectories.

In fact, Mannheim’s (1927/1952) work was partly a critique of the overemphasis on absolutist/biological perspectives in the study of social and historical development, including the objective treatment of time (Pilcher, 1994). This makes it all the more puzzling and problematic that generational “theory” has been applied to discrete quantitative increments (i.e., age and year ranges to define cohorts), and in a fashion that ignores

the “non-contemporaneity of the contemporaneous” (i.e., the fact that being alive at the same time, or even being alive and of a similar age at the same time, does not mean history is *experienced* uniformly; Troll, 1970, p. 201). When considering the roots of “generations,” it is apparent that the concept has been re-characterized and misappropriated.

Myth #2: Generational Explanations Are Obvious

One appealing, if overstated, quality of generations is that there are unique characteristics that are (assumed to be) associated with various cohorts. Moreover, it is assumed that lines can be drawn between generations to distinguish them from one another on the basis of such characteristics. These characteristics, which are said to be influenced by the various events that supposedly give rise to generations in the first place, “make sense” in a way that give generations an air of face validity. For example, it seems very rational and indeed quite self-evident to many that living through the Great Depression made the Silent Generation more conservative and risk-avoidant and that helicopter parents and the rise of social media made Millennials narcissistic and cynical. These and other observed social phenomena such as job-hopping and materialism are frequently ascribed to generations. However, looking more deeply into the identification of these critical events, as well as the mechanisms by which generations supposedly emerge, reveals a far more complex, nuanced picture than a generational explanation would have us believe.

In order to understand why the events that created generations may, or may not, have been impactful, it is important to understand how the critical events purported to give rise to them are identified. As one example, in their popular book, Strauss and Howe (1991) offer a taxonomy of generations, developed by tracing historical records in search of what they called “age-determined participation in epochal events...” (p. 32). To Strauss and Howe, such events were deemed to be so critical that they contributed to the creation of a unique generation. This post hoc historical demographic approach benefits from the passage of time: it is far easier to identify critical events retrospectively, rather than when they are actually occurring. Although major events like economic depressions and wars likely qualify as epochal, dozens of other events have been proposed to be critical in the formation of generations, only to fade into historical oblivion within a matter of a few years.

For example, in defining supposedly seminal events in the development of the Millennial generation, Howe and Strauss (2000) cite the case of “Baby Jessica” (n.b. on October 14, 1987, 18-month-old Jessica McClure Morales fell into a well in her aunt’s backyard in Midland, Texas. After 56 h, rescue workers eventually freed her from the 8-in. well casing 22 ft below the ground; Helling, 2017). Why this event should help

form a generation is uncertain, as is whether or not Millennials were or have been systematically impacted by her saga and subsequent rescue.

Rather than being obviously generational, explanations for many social phenomena are more likely to be associated with age or period effects, both of which are other time-based sources of variation that are often conflated with generational cohorts. Specifically, there are three sources of time-based variation that need to be accounted for to make claims about generations: age, period, and cohort effects (see Glenn, 1976, 2005). Age effects refer to variability due to time since birth, in that chronological age is simply an index of “life lived” (e.g., Wohlwill, 1970). Period effects refer to variability due to contemporaneous time and refer to the effects of a specific time and place (i.e., the year 2020). Finally, cohort effects are those that are typically taken as evidence for generations, referring to the year of one’s birth. To make claims about generations, therefore, it is necessary to rule out the effect of age (i.e., developmental influences) and period (i.e., contemporaneous contextual influences).

There are numerous examples of how these sources of variability are conflated and confused with one another. Consider that popular press accounts of Millennials have until recently painted them to be dedicated urban dwellers who favored ride-sharing services and eschewed traditional families (e.g., Barroso, Parker, & Bennet, 2020; Godfrey, 2016). However, adults in this age range have more recently been observed moving to the suburbs, buying houses and cars, and having children (e.g., Adamczyk, 2019). This is not a generational effect but rather a phenomenon attributable to the fact that Millennials are reaching the normative age where people get married, start families, and purchase houses. This is a product of age and context, not generation or period. The picture becomes even more complex given other contextual factors not necessarily bound to time, for example, when considering that the average age of first conception is higher in urban, compared to rural, areas (Bui & Miller, 2018).

Another example comes from data showing that high school and college students are less likely to hold summer jobs today than 20 years ago (Desilver, 2019). This is not a generational effect, but rather is attributable to contemporaneous economic conditions. As a final example, after 9/11, there was a modest increase in the number of people enlisting in the United States Army, which is an example of a period effect (Dao, 2011). However, this change has also been misattributed in various ways to a generational effect (e.g., Graff, 2019). Notably, in ~2019 (i.e., when those born in ~2001 turned ~18 and were eligible to join the army), there were historically low rates of enlistment (Goodkind, 2020). If this rate had been particularly high, one might conclude evidence for a generational effect, such that people born in 2001 grew up in a time and place that demanded enlistment. However, this is not the case—growing up in a post 9/11 world did not make this cohort more likely than others to join the army.

In summary, whereas certain historical events might be easily identifiable as epochal, the extent to which recent events are defined as such might not be known for some time. Moreover, this idea assumes that epochal events actually matter for the formation of distinct generations, a key argument in generations theory that is by-and-large untested, and indeed untestable. Moreover, consider that “global” events (i.e., those that affect all members of a population regardless of age, not just those born in a particular time and place, like a global pandemic) almost certainly manifest as period, not generational cohort effects (Rudolph & Zacher, 2020a, 2020b). Generations and the events that are purported to give rise to them are far from obvious and to attribute current individual characteristics to the occurrence of specific events is misguided. Furthermore, many of the “obvious” generational effects often attributed to such events are much more likely due to other factors associated with age and/or period.

Myth #3: Generational Labels and Associated Age Ranges Are Agreed Upon

Whereas generational labels are well-known and widely recognized, the specific birth year ranges that define each generational grouping and the consistency with which such groupings are applied across time, studies, and location, vary substantially. For example, Smola and Sutton (2002, p. 364) identified a great deal of variation in the start and end years that define different generational groups and the names used to describe various generations, noting “generations...labels and the years those labels represent are often inconsistent” (p. 364).

In their meta-analysis, Costanza et al. (2012) found similar discrepancies with variations in start and end dates ranging from 3 to 9 years depending on the study, the variables of interest, and the source of the generational year ranges being used. Similar conclusions were reached by Rudolph et al. (2018) in their review of generations in the leadership literature.

Beyond these definitional inconsistencies, there are notable differences in the way researchers address cross-cultural variability in generational research. The ubiquity of the labels and their pervasiveness in the literature has led researchers from countries other than the USA to use labels (e.g., “Baby Boomers”) when doing so does not make sense, as the events that supposedly influenced individuals and gave rise to these generations in the first place clearly differ from country to country. Moreover, consider that the term “Millennials” is not meaningful in countries that use Chinese, Islamic, Jewish, Buddhist, Sakka, or Kolla Varsham calendars (Deal, Altman, & Rogelberg, 2010) and that generations are often labeled based on political or cultural events and epochs. For instance, members of the Greek workforce have been categorized into the Divided Generation, the Metapolitefsi Generation, and the Europeanized Generation (Papavasileiou,

2017). In Israel, generations are identified by wars and thus have shorter ranges (Deal et al., 2010). The German media has variously labeled younger people as Generation C64, Generation Golf, or Generation Merkel. In China, generations are pragmatically called the Post-50s generation, Post-60s Generation, and so on, whereas in India, the three main generational groups are labeled Conservatives, Integrators, and Y2K (Srinivasan, 2012).

One approach researchers have adopted for dealing with the complexities of cross-cultural variation in generational labeling is to ignore the issue and simply use US-based generational labels and years when studying individuals in other countries. For example, Yigit and Aksay (2015) looked at Turkish Gen X and Gen Y health professionals, roughly using US date ranges for these groups. A second approach has been to use the date ranges associated with US generations but assign country-specific labels to those same periods. Utilizing this approach, Weiss and Zhang (2020) picked birth year ranges and adopted or developed generational labels in three different countries. For example, for the years 1946–1965, they labeled the generations as the “68er Generation” in Germany, “Baby Boomer” in the USA, and the “New China Generation” in China. A third approach has been to develop country-specific generational groups based on local events that impacted people in that country, a strategy used by To and Tam (2014) who identified four distinct post-WWII generations in China.

Inconsistencies in labeling have significant conceptual and computational implications for the study and understanding of generations and especially so if one wishes to conduct comparative cross-national and/or cross-cultural research. Importantly, we would argue that the validity of the generations concept and its utility for understanding individual, group, and organizational phenomena is very limited due to a number of factors, including (a) researchers’ inability to agree on the start and end dates for different generations; (b) inconsistencies in the classification and labeling systems that characterize them; (c) disagreement on the specific significant influencing events that supposedly gives rise to them, such as the extent to which the timing of events plays a role, including the length of time that is associated with their influence, and the lag required to observe such influences; and (d) the issue of cross-cultural equivalencies. As such, defining generations represents a moving target, which is a significant liability for science and evidence-based practice.

Myth #4: Generations Are Easy To Study

Although there have been numerous attempts to study generations and generational differences, it is clear that these phenomena have not been studied very well. Indeed, it is not only difficult to study generations as they have been framed in the literature but also impossible. As noted above, research on

generations is typically based upon birth year ranges, which is to say that they are derived from information about birth cohorts. A common problem emerges when one tries to study cohort effects in cross-sectional (i.e., single time point) research designs, which are the most commonly applied designs used to make inferences about generations (see Costanza et al., 2012). Namely, age, period, and cohort effects are confounded with each other in such designs.

This confounding is best understood through an example. Let us assume that a hypothetical cross-sectional study is conducted in the year 2020 (i.e., the year constitutes the “period effect” in this case). If we reduce the logic of generations a bit and define a cohort effect in terms of a single birth year (e.g., those born in 1980), then the effect of age (i.e., time since birth; 40 years) is completely confounded with cohort. This is because:

$$\text{Period}_{(2020)} = \text{Age}_{(40)} + \text{Cohort}_{(1980)} \quad (1)$$

In this example, any differences that researchers observe as a function of assumed cohort variability may instead be due to the age of the individuals when they were studied. This pattern would likewise be extrapolated to any age-cohort combinations studied in a single period. The linear dependency among the three effects means that unique effects of age cannot be separated from whatever cohort effect might exist and vice versa.

One common attempt to circumvent this confounding is to artificially group members of different cohorts together to form generational groups. However, this practice is likewise fraught with the same issues raised just above. Another hypothetical cross-sectional study helps to illustrate why: in this study, let us assume that we want to define two arbitrary groupings of birth cohorts, representing people born between 1981 and 1990 (“Generation A”) and those 1991–2000 (“Generation B”), to disentangle age and cohort effects from one another. The variability due to birth cohort in each generation is 10 years; however, as in our previous example, the age range within cohorts is likewise 10 years. Thus, this approach does little to solve the dependency other than shifting the scaling of age. As the rank order of cohort versus age has not changed (relatively older people are in “Generation A” and relatively younger people are in “Generation B”), there is still a correlation between age and generational groups in this study. Moreover, this approach has other limitations, including the loss of statistical power to detect age effects (see Rudolph, 2015) and a confusing logic of cohort versus age effect interpretations (e.g., the oldest members of “Generation A” are closer in age to the youngest members of “Generation B” than to the average age of their own generational group).

From a research design standpoint, this issue of confounding represents an unresolvable problem, which has long been known and lamented in the literature (e.g., Glenn, 1976,

2005). Other research designs are unfortunately no better geared than cross-sectional designs to address this issue, or they do not address variability in cohort effects at all. For example, in typical longitudinal designs, cohort effects are held constant (i.e., from the first time point, people's birth year does not vary) and period is allowed to vary (i.e., as data are collected from the same people across multiple time points). However, in such designs, period effects are conflated with age (i.e., as people "get older" across time). Expanded longitudinal approaches, such as cohort sequential designs (e.g., sampling 20-year-olds at each time point, $T_1 - T_k$, adding successive cohorts of 20-year-olds at each time point) may be able to separate age/aging from period and cohort effects, depending on how "cohort" is defined. However, such studies require immense resources and time (e.g., 20+ years or more of data collection, including long-term data management and subject retention efforts; see Baltes & Mayer, 2001). As such, and perhaps not surprisingly, we are unaware of any applications of such designs to the study of generations at work.

An alternative that has been employed by some researchers (e.g., Twenge, Konrath, Foster, Campbell, & Bushman, 2008) is a cross-temporal approach, often employing time-lagged panels or cross-temporal meta-analyses (discussed further below). Cross-temporal approaches use data collections from members of different cohort groups, collected during different periods, holding age constant (e.g., data from panels of 25-year-olds and 50-year-olds collected in 2000, 2010, and 2020 or research done on college students every year from 1990 to the present). The logic of cross-temporal methods is to compare groups of similarly aged individuals (i.e., to "control" for age by holding its value constant) across time and then argue that cohort effects are more likely the cause of any observed differences than period effects. Among other issues, cross-temporal approaches have been criticized for their reliance on ecological correlations (i.e., correlations among variables that represent group means) and design assumptions (see Trzesniewski & Donnellan, 2010; Trzesniewski, Donnellan, & Robins, 2008) raising significant concerns about them as a way to study generations. Specifically, ecological correlations can misrepresent relationships when contrasted with correlations among individual observations (see Robinson, 1950).

Overall, the methodological and design challenges associated with studying generations are substantial and the conceptualization of generations as the intersection of age and period makes them impossible to study. Thus, studying generations is only "easy" to the extent that one is willing to ignore the issues raised here. Given these concerns, we echo the recommendations of Rudolph and Zacher (2017), who suggest that "...both research and practice would benefit from a moratorium on time-based operationalizations of generations as units for understanding complex dynamics in organizational behavior" (p. 125).

Myth #5: Statistical Models Can Help Disentangle Generational Differences

Given the design challenges noted above, it is perhaps not surprising that researchers have tried a variety of statistical techniques to resolve the age, period, and cohort confounding problem. Unfortunately, the great majority of generational studies to date have employed the least useful approach to doing so, pairing cross-sectional designs with comparisons of generational cohort means (e.g., typically via linear models, such as t tests or other variants of ANOVA-type models). As noted, cross-sectional approaches control for period effects but confound cohort and age effects with one another and this confounding cannot be resolved statistically through any means. To be clear, this is not a function of a lack of innovation regarding statistical modeling techniques. On the contrary, as long as age, period, and cohort are defined in time-related terms, they will be inextricably confounded with one another in cross-sectional research designs.

With respect to cross-temporal approaches, some researchers have implemented a specific technique referred to as "cross-temporal meta-analysis" (CTMA). CTMA shares certain features with traditional meta-analysis (e.g., studies assumed to be representative of a population of all possible studies on a given phenomenon are taken from the literature and synthesized). In a typical CTMA, age is more or less held constant by narrowing the sampling frame of studies included (e.g., by only considering studies of college age students). By holding age constant and looking at the effects of time on outcomes (i.e., by considering the relationship between year of publication and mean levels of a given phenomenon derived from contributing studies), CTMA models change over time in a phenomenon. However, although age is to some extent held constant, recall that cross-temporal methods inherently confound period and cohort effects with one another. Thus, any identified cohort effect cannot be unambiguously separated from period effects in CTMA. Although research employing CTMA has argued that generations are more likely than period effects to explain observed differences, such work also recognizes that period effects are equally likely explanations for any results derived therefrom (e.g., Twenge & Campbell, 2010). Furthermore, a recent paper by Rudolph, Costanza, Wright, and Zacher (2019) used Monte Carlo simulations to test the underlying assumptions of CTMA, finding that it may misestimate cohort effects by a factor of three to eight times, raising questions about both the source and magnitude of any differences identified.

A final analytic technique that has been occasionally employed to disentangle age, period, and cohort effects is cross-classified hierarchical linear modeling (CCHLM; Yang & Land, 2006, 2013). Applying CCHLM to generational research, age is treated as a fixed effect and period and cohort are allowed to vary as random effects. Importantly, however,

decisions about how such effects should be specified are somewhat arbitrary, because it is also possible that cohort and period could be fixed and age random in the population, resulting in different outcomes and conclusions from such models that are largely dependent on analytic decisions rather than reflecting “true” population effects. Thus, without generally unknowable insights into “what” to hold constant in estimating such models, CCHLM results in ambiguous parameter estimates for age, period, and cohort effects.

To this end, a series of simulation studies by Bell and colleagues (Bell & Jones, 2014; see also Bell & Jones, 2013, for further commentaries) has shown that the Yang and Land methodology for separating age, period, and cohort effects simply does not “work.” Even ignoring this issue, CCHLM does little to solve the problem of age, period, and cohort confounding, because the three variables are still linearly dependent upon each other and hence computationally inseparable. Something (typically age) has to be held constant in such models to separate these variables from one another, and even then, ambiguities in how to interpret confounded effects of period and cohort still abound. In short, none of the statistical techniques that have been used to study generations can fully separate age, period, and cohort effects (see Costanza, Darrow, Yost, & Severt, 2017, for a full discussion) and cannot solve the conceptual or design problems noted earlier. This known issue has befuddled social scientists for quite some time. For example, more than 40 years ago Glenn (1976) referred to this problem as “a futile quest.”

Myth #6: Generations Need To Be Managed at Work

Given the proliferation of research and popular press articles identifying generational differences, it is not surprising that practitioners and academics have suggested that people in different generations need to be managed differently at work (e.g., Baldonado, 2013; Lindquist, 2008). There are two main problems with these recommendations.

First, as has been noted, research generally does not and cannot support the existence of generational differences. Conceptual, theoretical, methodological, and statistical issues abound in this literature, and absent clear, convincing, and valid evidence for the existence of generational differences, there is no justification for managing individuals based on their supposed generational membership (NASEM, 2020a, 2020b; Rudolph & Zacher, 2020c). Eschewing the notion of generations does not mean that one must ignore that individuals change over the course of their lifespan or that their needs at different stages in their careers will vary. However, it is important to note that there is not a credible body of evidence to suggest that such changes are generational or that they should be managed as “generational differences” at work.

Indeed, as already noted, much of what lay people observe as “generational” at work is likely more accurately attributed

to either age or career stage effects masquerading as generational differences. There is a broad and well-supported literature on best practices for HR, leadership, and management (e.g., Kulik, 2004) and customizing policies and practices based on those recommendations rather than generational stereotypes makes much more sense. Furthermore, there is a burgeoning literature on the positive influence that age-tailored policies (e.g., age-inclusive human resource practices that foster employees’ knowledge, skills, and abilities, motivation, effort, and opportunities to contribute, irrespective of age) for building positive climates for aging at work and supporting worker productivity and well-being (see Böhm, Kunze, & Bruch, 2014; Rudolph & Zacher, 2020d). For example, research suggests that workers of all ages benefit from flexible work policies that allow for autonomy in choosing the time and place where work is conducted (see Rudolph & Baltes, 2017).

Second, as alluded to earlier, management strategies that are based on generations have the potential to raise legal risks for organizations. For example, in the USA, provisions of The Civil Rights Act of 1964, the Age Discrimination in Employment Act of 1967, and the Americans with Disabilities Act of 1991 disallow the mistreatment of individuals from certain groups based on a variety of characteristics. Although generational membership is not directly covered by such legislation, under the ADEA, age is a protected class for workers aged 40+. Given the conflation of generational effects with age, life, and career stage, employment-related decisions tied to generations could be interpreted as *prima facie* evidence of age-related discrimination (e.g., Swinick, 2019). Indeed, organizations that market themselves to and build personnel practices around generations and generational differences have been implicated in age discrimination lawsuits (e.g., *Rabin vs. PriceWaterhouseCoopers*, 2017). Combined with the absence of valid studies supporting generationally based differences, organizations open themselves up to an unnecessary liability if they manage individuals based on generational membership (Costanza & Finkelstein, 2015; for a related discussion of various policy implications of managing generations, see Rudolph, Rauvola, Costanza, & Zacher, 2020).

Recently, Costanza, Finkelstein, Imose, and Ravid (2020) reviewed the applied psychology, HR, and management literatures looking for studies about how organizations should manage generations in the workplace. They identified a range of inappropriate inferences and unsupported practical recommendations and systematically refuted them based on legal, conceptual, practical, and theoretical grounds. We echo their conclusion here, regarding advice from managing based on generational membership (p. 27): “Instead of customizing HR policies and practices based on such [generational] differences, organizations could use information about their overall workforce and its characteristics to train recruiters, develop and refine policies, and offer customizable benefits packages

that appeal to a broad range of employees, regardless of generation.”

That said, we do not think that the idea of generations should be ignored altogether in the development of management strategies. Instead, the focus should be shifted away from managing assumed differences between members of different generations and toward managing *perceptions* of generations and generational differences. Considering evidence that people’s beliefs and expectations about age and generations feed into the establishment of stereotypes that interfere with work-relevant processes (e.g., King et al., 2019; Perry, Hanvongse, & Casoinic, 2013; Raymer, Reed, Spiegel, & Purvanova, 2017; Van Rossem, 2019), this is a particularly important consideration and is, in and of itself, a topic worthy of further study.

Myth #7: Members of Younger Generations Are Disrupting Work

While it may feel “new” to blame members of younger generations for changes in the work environment, this is a form of uniqueness bias: we think our beliefs and experiences are new, when in reality similar complaints have been levied against relatively younger and older people for millennia. Indeed, generationalized beliefs about the inflexibility and “out of touch” nature of older generations, or the laziness, self-centeredness, and entitlement of younger generations, have repeated with remarkable consistency across recorded history (Rauvola, Rudolph, & Zacher, 2019). One of the more obvious examples is in referring to generations with self-referent terminology: New York Magazine wrote about youth in the so-called “Me” Decade (Wolfe, 1976) over 30 years prior to Twenge’s (2006) work on “Generation Me,” Time Magazine’s (Stein, 2013) publication on the “Me Me Me” generation, and even the British Army’s recent use of the phrase “Me Me Me Millennials... Your Army needs you and your self belief” in recruitment ads (Nicholls, 2019).

Lamentations about young people “killing things” are far from radical as well. Modern claims are made about youth ending an absurd number of facets of life, ranging from institutions such as marriage and patriotism to household products like napkins, bar soap, and “light” yogurt (Bryan, 2017). Moreover, similar concerns have been voiced throughout the years regarding the rise and fall of consumer preferences, including concerns about young people upending and revolutionizing romantic relationships and transportation (e.g., Thompson, 2016), or being corrupted by new forms of popular media like the radio in the 1930s (Schwartz, 2015).

A more realistic explanation exists for both shifts in consumer preferences as well as changes and disruptions in the nature of work: the contemporaneous environment, and innovations and unexpected changes therein. To take a recent example, the global COVID-19 pandemic has tremendously

impacted and transformed how and where work is conducted (Kniffin et al., 2020; Rudolph et al., 2020). While “non-essential” workers are conducting more work virtually and with more flexible hours, other workers deemed “essential” are working in environments with new health and safety protocols and often with different demands and resources in place (e.g., with respect to physical equipment, coworker and customer contact). Even more workers have been furloughed or laid off altogether, with the need to turn to alternative forms of work to maintain income or, when feasible, resorting to early retirement (see Bui, Button, & Picciotti, 2020; Kanfer, Lyndgaard, & Tatel, 2020; van Dalen & Henkens, 2020).

These changes have led to a dramatic pivot for many organization, managers, and individual workers, far surpassing the speed and degree to which more gradual, “generational” workplace changes have supposedly occurred. Not only this, but such changes have had outcomes for workers and society that contradict what generational hypotheses would predict. For example, generational stereotypes suggest that relatively older workers would struggle with technological changes at work while relatively younger workers would thrive. However, the move to work-from-home arrangements has resulted in positive benefits for some, including helpful and flexible accommodations, or health and safety protections, as well as new challenges for others, such as the need to balance childcare or eldercare with work while at home, while still others face newfound isolation and lack of in-person social support coupled with great uncertainty (Alon, Doepke, Olmstead-Rumsey, & Tertilt, 2020; Douglas, Katikireddi, Taulbut, McKee, & McCartney, 2020). These changes create a diverse set of advantages and disadvantages for individuals of all ages. Rather than blaming those of younger generations for disrupting work and life more generally, societal trends and events are a more appropriate, fitting, and ultimately addressable explanation (i.e., through non-ageist interventions and policies).

Myth #8: Generations Explain the Changing Nature of Work (and Society)

Generations are an obvious and convenient explanation for the changing nature of work and societies. However, as discussed previously, convenience and breadth in applying generational explanations does not translate into validity. Because they can easily and generally be applied to explain age-related differences, generations give a convenient “wrapper” to the complexities of age and aging in dynamic environments (i.e., both within and outside of organizations). However, this wrapper restricts and obscures the complexities inherent to both individuals and the environments in which they operate. Generations are highly deterministic, suggesting that individuals “coming of age” at a particular time (i.e., members of the same cohort) all experience aging and development uniformly

(i.e., cohort determinism; Walker, 1993). With so many other demonstrable age-related and person-specific factors (e.g., social identities, personality, socioeconomic status) that have bearing on individuals' attitudes, values, and behaviors, as well as how these interact with contextual and environmental influences, the prospect of generations overriding all such explanations is implausible. Assuming otherwise wipes away a tremendous amount of potentially useful detail and heterogeneity.

Moreover, this perspective stipulates that events in a given time period impact younger people and not older people, such that historical context only influences individuals up to a certain (early) point in their development. This aligns with the idea that identity is “crystallized” or “ratified” at a certain age and development or change is more or less halted thereafter (Ryder, 1965). However, ample evidence suggests that this is far from the case, with age-graded dynamics in such areas as personality emerging across the breadth of the lifespan (e.g., Bianchi, 2014; Donnellan, Hill, & Roberts, 2015; Staudinger & Kunzmann, 2005) and alongside external forces (e.g., economic recessions). Our ability to dismiss crystallization claims is not merely empirical: although current methods and analyses used cannot fully disentangle age from cohort, lifespan development theory promotes the ideas of lifelong development, multiple intervening life influences, and individuals' agency in shaping their identity and context (e.g., Baltes, 1987). Accordingly, it is more rational and defensible to suggest that individuals' age, life stage, social context, and historical period intersect across the lifespan. These intersections, in turn, produce predictable as well as unique effects that translate into different attitudes, values, and behaviors, but not as a passive and predetermined function of an individual's generation.

Myth # 9: Studying Age at Work Is the Antidote to the Problems with Studying Generations

Age and aging research are neither remedies for nor equivalent approaches to the study of generations. First, there are a broad range of phenomena encompassed in both research on “age at work” and “aging at work” (e.g., see discussion of “successful aging” research components in Zacher, 2015a). These two areas are related but distinct, spanning the study of age as a discrete or sample-relative sociodemographic (i.e., age as a descriptive device, especially between person), age as a compositional unit property (e.g., age diversity in a team, organization), and age as a proxy for continuous processes and development over time (i.e., age representing the passage of time, especially within-person in longitudinal research). Each of these forms has a multitude of potential contributions to our understanding of the workplace, and these contributions should not (and cannot) be reduced to generational cohort-based generalizations. Second, and as noted earlier, although aging research is confounded by cohort effects, it draws on

sound theories, research designs, and statistical modeling approaches (Bohlmann, Rudolph & Zacher, 2018). The study of generations at work, however, relies upon theories unintended for formal testing and flawed data collection methods and analyses (Costanza et al., 2017).

Moreover, whereas both age and aging research treat time continuously, generational research groups people into cohort categories. This results in a loss of important nuance and information about individuals, with results prone to either over- or underestimated age effects. The practice of cohort grouping also creates a “levels” issue in generational research to which age and aging research are not subject: studying aging focuses on the individual level of analysis, whereas (sociological) generational research “groups” individuals into aggregates and then incorrectly draws inferences about individual outcomes. This mismatch of levels can produce ecological or atomistic fallacies (i.e., assumptions that group-level phenomena apply to the individual level and vice versa), depending on whether group- or individual-level data are used to draw conclusions (Rudolph & Zacher, 2017). Thus, although age and aging research present robust opportunities for understanding how to support the age-diverse workforce, generational research provides incomplete conclusions about, and unclear implications for, understanding trends in the workplace. Studying age alone is not a substitute for generational research; rather, it transcends generational approaches and engenders more useful and tenable conclusions for researchers and practitioners alike.

Myth #10: Talking About Generations Is Largely Benign

Talking about generations is far from benign: it promotes the spread of generationalism, which can be considered “modern ageism.” Just as “modern racism” is characterized by more subtle and implicit, yet no less discriminatory or troubling, racist beliefs about black, indigenous, and people of color (BIPOC; e.g., McConahay, Hardee, & Batts, 1981), generationalism is defined by sanctioned ambivalence and socially acceptable prejudice toward people of particular ages. These beliefs are normalized and pervasive, reiterated across various forms of popular media and culture to the point that they seem innocuous. However, generationalism leads to decisions at a variety of levels (e.g., individual, organizational, institutional) that are harmful, divisive, and potentially illegal.

Media outlets play a large role in societal tolerance and acceptance of generationalism (Rauvola et al., 2019). New “generations” are frequently proposed in light of current events, and age stereotyping becomes further trivialized with each iteration. Adding to this, an abundance of generational labels “stick” while others do not—“iGen,” “Generation Wii,” “Generation Z,” and “Zoomers” all vie to define the “post-Millennial” generation (Raphelson, 2014), and “Generation Alpha” (a name inspired in part by naming conventions

during the 2005 hurricane season; McCrindle & Wolfinger, 2009) now faces competition from “Gen C” to define the next generation. “Gen C” (or “Generation Corona;” see Rudolph & Zacher, 2020a, 2020b) has gained traction in the media alongside the recent COVID-19 pandemic, with some suggesting that “coronavirus has the potential to create a generation of socially awkward, insecure, unemployed young people” (Patel, 2020). These labels differ markedly by country as well, as noted earlier, adding to the trivialization and confusion. More and more, these labels are also used to add levity, and/or to avoid blatant ageism, to deep-seated sociopolitical divides and conflicts portrayed in the media. Take, for example, the rise of “OK Boomer” alongside resentment toward conservatism (Romano, 2019), or the labeling of the “Karen Generation” to encapsulate white privilege and entitlement, especially among middle- to upper-class suburban women (Strapagiel, 2019).

Although often treated as harmless banter, this lexicon filters into influential research and policy-based organizations (e.g., “Gen C” in The Lancet, 2020), legitimizing the use of generational labels and associated age stereotypes in discourse and decision-making. As suggested above, in many countries, age is a protected class and the use of generations to inform differential practices and policies in organizations (e.g., hiring, development and training, benefits) poses great risk to the age inclusivity, and the legal standing, of workplaces (see also Costanza et al., 2020). Whether a generational label is new and catchy or accepted and seemingly mundane, it is built on the back of modern ageism, and generationalism—just like other “isms”—is far from benign.

Moving Beyond Generations: Two Alternative Models

With the preceding ten myths serving as a backdrop, we next introduce two models—the social constructionist perspective and the lifespan development perspective—that serve as alternative and complementary ways of thinking about, and understanding thinking about, generations and generational differences. Indeed, we propose that these are complementary models. Specifically, whereas the social constructionist perspective serves as a way of *understanding why people tend to think about age and aging in generational terms*, the lifespan development perspective serves as an *alternative to thinking about age and aging in generational terms*.

The Social Constructionist Perspective

Considering the ten myths reviewed above, it is clear that the evidence for the existence of generations and generational differences is lacking. Moreover, when applying a critical lens, what little evidence does exist does not hold up to

theoretical and empirical scrutiny. What, then, are we left to do with the idea of generations? That is to say, how can we rationalize the continued emphasis that is placed on generations in research and practice despite the lack of a solid evidence base upon which these ideas rest? On the surface, this may seem to be a conceptually, rather than a practically, relevant question. However, there is a booming industry of advisors, gurus, and entire management consulting firms based around the idea of generations (e.g., Hughes, 2020). In whatever form it takes, generationally based practice is built upon the rather shaky foundations of this science, putting organizations and their constituents at risk—not only of wasted money, resources, and time, but of propagating misplaced ideas based on a weak, arguably non-existent evidence base (Costanza et al., 2020). As the organizational sciences move toward the ideals of evidence-based practice, generations and assumed differences between them are quickly becoming yet another example of a discredited management fad (see Abrahamson, 1991, 1996; Røvik, 2011).

Borrowed from sociological theoretical traditions, the social constructionist perspective focuses on understanding the nature of various shared assumptions that people hold about reality, through understanding the ways in which meanings develop in coordination with others, and how such meanings are attached to various lived experiences, social structures, and entities (see Leeds-Hurwitz, 2009)—including generations. Comprehensive treatments of the core ideas and tenets of the sociological notion of social constructionism can be found in Burr (2003) and Lock and Strong (2010). The social constructionist perspective on generations, which is based upon the idea that generations exist as social constructions, has been advanced as a means of understanding why people often think about age and aging in discrete generational, rather than continuous, terms (e.g., Rudolph & Zacher, 2015, 2017; see also Lyons & Kuron, 2014; Lyons & Schweitzer, 2017; Weiss & Perry, 2020). The social constructionist perspective has utility as a model for understanding various processes that give rise to generations and for understanding the ubiquity and persistence of generations and generationally based explanations for human behavior. In an early conceptualization of this perspective, Zacher and Rudolph (2015) proposed that two processes reinforce each other to support the social construction of generations. Specifically, (1) the ubiquity and knowledge of generational stereotypes drive (2) the process of generational stereotyping, which is by-and-large socially sanctioned. These two processes fuel the social construction of generational differences, which have bearing on a variety of work-related processes, not least of which is the development of “generationalized” expectations for work specific attitudes, values, and behaviors. Such generationalized expectations set the stage for various forms of intergenerational conflicts and discrimination (i.e., generationalism; Rauvola et al., 2019) at work.

The social constructionist perspective on generations is grounded in three core principles: (1) generations are social constructs that are “willed into being”; (2) as social constructs, generations exist because they serve a sensemaking function; and (3) the existence and persistence of generations can be explained by various processes of social construction. The social constructionist perspective is gaining traction as a viable alternative to rather rigid, deterministic approaches of conceptualizing and studying generations, even among otherwise staunch proponents of these ideas. For example, Campbell et al. (2017) offer that “...generations might be best conceptualized as fuzzy social constructs” (p. 130) and Lyons et al. (2015) echo similar sentiments about the role and function of generations. To further clarify this perspective, we next expand upon these three core ideas that are advanced by the social constructionist perspective, providing more details and examples of each, and offering supporting evidence from research and theory.

First, the social constructionist perspective advances the idea that generations and generational differences do not exist objectively (see Berger & Luckman, 1966, for a classic treatment of this idea of the “socially constructed” nature of reality). Rather, generations are “willed into being” as a way of giving meaning to the complex, multicausal, multidirectional, and multidimensional process of human development that we observe on a day-to-day basis, especially against the backdrop of rapidly changing societies. Adopting a social constructionist framework motivates an understanding of the various ways in which groups of individuals actively participate in the construction of social reality, including how socially constructed phenomena develop and become known to others, and how they are institutionalized with various norms and traditions. To say that generations are “social constructs,” or that generations reflect a process of “social construction,” implies that our understanding of their meanings (e.g., the “notion” of generations; the specific connotations of implying one generation versus another) exists as an artifact of a shared understanding of “what” generations “are,” and that this is accepted and agreed upon by members of a society.

Moreover, and to the second core principle, the social constructionist perspective suggests that generations serve as a powerful, albeit flawed, tool for social sensemaking. Generations provide a heuristic framework that greatly simplify people’s ability to quickly and efficiently make judgments in social situations, at the risk of doing so inaccurately. In other words, generations offer an easy, yet overgeneralized, way to give meaning to observations and perceptions of complex age-related differences that we witness via social interactions. This idea is borrowed from social psychological perspectives on the development, formation, and utility of stereotypes. When faced with uncertainty, humans have a natural tendency to seek out explanations of behavior (i.e., their own, but also others’; see Kramer, 1999). This process reflects an

inherent need to make sense of one’s world through a process of sensemaking. An efficient, albeit often flawed, strategy to facilitate sensemaking is the construction and adoption of stereotypes (Hogg, 2000). Stereotypes are understood in terms of cognitive–attitudinal structures that represent overgeneralizations of others—in the form of broadly applied beliefs about attitudes, ways of thinking, behavioral tendencies, values, beliefs, et cetera (Hilton & Von Hippel, 1996).

Applying these ideas, the adoption of generations, and the accompanying prescriptions that clearly lay out how members of such generations ought to think and behave, helps people to make sense of why relatively older versus younger people “are the way that they are.” Additionally, generational stereotypes can be enacted as an external sensemaking tool, as described, but also for internal sensemaking (i.e., making sense of one’s own behavior). Indeed, there is emerging evidence that people internalize various generational stereotypes and that they enact them in accordance with behavioral expectations (i.e., a so-called Pygmalion effect, see Eschleman, King, Mast, Ornellas, & Hunter, 2016).

Third, the social constructionist perspective offers that generations are constructed and supported through different mechanisms. The construction of generations can take various forms, for example, in media accounts of “new” generations that form as a result of major events (e.g., pandemics; Rudolph & Zacher, 2020a, 2020b), political epochs (e.g., “Generation Merkel” Mailliet & Saltz, 2017; “Generation Obama,” Thompson, 2012), economic instability (e.g., “Generation Recession,” Sharf, 2014), and even rather benign phenomena, such as growing up in a particular time and place (e.g., “Generation Golf,” Illies, 2003).

A major source of generational construction can be traced to various “think tank”-type groups that purport to study generations. From time to time, such groups proclaim the end of one generation and the emergence of new generational groups (e.g., Dimock, 2019). These organizations legitimize the idea of generations in that they are often otherwise trusted and respected sources of information and their messaging conveys an associated air of scientific rigor. Relatedly, authors of popular press books likewise tout the emergence of new generations. For example, Twenge has identified “iGen” (Twenge, 2017) as the group that follows “Generation Me” (Twenge, 2006), although neither label has found widespread acceptance outside of these two texts. Importantly, all generational labels, including these, exist only in a descriptive sense, and it is not always clear if the emergence of the generation precedes their label, or vice versa. For example, consider that Twenge has suggested that the term “iGen” was inspired by taking a drive through Silicon Valley, during which she concluded that “...iGen would be a great name for a generation...” (Twenge, as quoted in Horovitz, 2012), a coining mechanism far from Mannheim’s original conceptualization of what constitutes a generation.

The contemporary practice of naming new generations has its own fascinating history (see Raphelson, 2014). Indeed, the social constructionist perspective recognizes that the idea of generations is not a contemporary phenomenon; there is a remarkable historical periodicity or “cycle” to their formation and to the narratives that emerge to describe members of older versus younger generations. As discussed earlier, members of older generations have tended to pan members of younger generations for being brash, egocentric, and lazy throughout history, whereas members of younger generations disparage members of older generations for being out of touch, rigid, and resource-draining (e.g., Protzko & Schooler, 2019; Rauvola et al., 2019). Likewise, the social constructionist perspective underlines that generations are supported through both the ubiquity of generational stereotypes and the socially accepted nature of applying such labels to describe people of different ages.

In summary, the social constructionist perspective offers a number of explanations for the continued existence of generations, especially in light of evidence which speaks to the contrary. Specifically, by recognizing that generations exist as social constructions, this perspective helps to clarify the continued emphasis that is placed on generations in research and practice, despite the lack of evidence that support their objective existence. Moreover, the social constructionist perspective offers a framework for guiding research into various processes that give rise to the construction of generations and for understanding the ubiquity and persistence of generations and generationally based explanations for human behavior. Next, we shift our attention to a complementary framework—the lifespan perspective—which likewise supports alternative theorizing about the role of age and the process of aging at work that does not require the adoption of generations and generational thinking. Then, we will focus on drawing lines of integration between these two perspectives.

The Lifespan Development Perspective

The lifespan development perspective is a meta-theoretical framework with a rich history of being applied for understanding age-related differences and changes in the work context (Baltes et al., 2019; Baltes & Dickson, 2001; Rudolph, 2016). More recently, the lifespan perspective has also been advanced as an alternative to generational explanations for work-related experiences and behaviors (see Rudolph et al., 2018; Rudolph & Zacher, 2017; Zacher, 2015b). Contrary to generational thinking and traditional life stage models of human development (e.g., Erikson, 1950; Levinson, Darrow, Klein, Levinson, & McKee, 1978), the lifespan perspective focuses on continuous developmental trajectories in multiple domains (Baltes, Lindenberger, & Staudinger, 1998). For instance, over time, an individual’s abilities may increase (i.e.,

“gains,” such as accumulated job knowledge), remain stable, or decrease (i.e., “losses,” such as reduced psychomotor abilities).

Baltes (1987) outlined seven organizing tenets to guide thinking about individual development (*ontogenesis*) from a lifespan perspective. Specifically, human development is (1) a lifelong process that involves (2) stability or multidirectional changes, as well as (3) both gains and losses in experience and functioning. Moreover, development is (4) modifiable at any point in life (i.e., plasticity); (5) socially, culturally, and historically embedded (i.e., contextualism); and (6) determined by normative age- and history-graded influences and non-normative influences. Regarding the final tenet, normative age-graded influences include person and contextual determinants that most people encounter as they age (e.g., decline in physical strength, retirement), normative history-graded influences include person and contextual determinants that most people living during a certain historical period and place experience (e.g., malnutrition, recessions), and non-normative influences include determinants that are idiosyncratic and less “standard” to the aging process (e.g., accidents, natural disasters). Finally, Baltes (1987) argued that (7) understanding lifespan development requires a multidisciplinary (i.e., one that goes beyond psychological science) approach. In summary, the lifespan perspective recognizes that individuals’ development is continuous, malleable, and jointly influenced by both normative and non-normative internal (i.e., those that are genetically determined; specific decisions and behaviors that one engages in) and external factors (i.e., the sociocultural and historical context).

A generational researcher may ask research questions like (a) “How does generational membership influence employee attitudes, values, and behaviors?” or (b) “What differences exist between members of different generations in terms of their work attitudes, values, or behaviors?” Then, likely based on the results of a cross-sectional research design that collects information on age or birth year and work-related outcomes, a generational researcher would likely categorize employees into two or more generational groups and take mean-level differences in outcomes between these groups as evidence for the existence of generations and differences between them. Contrary to this, a lifespan researcher would be more apt to ask research questions like (a) “Are there age-related differences or changes in work attitudes, values, and behaviors?” or (b) “What factors serve to differentially modify employees’ continuous developmental trajectories?” They would seek out cross-sectional or longitudinal evidence for age-related differences or changes in attitudes, values, and behaviors, as well as evidence for multiple, co-occurring factors, including person characteristics (e.g., abilities, personality), idiosyncratic factors (e.g., job loss, health problems), and contextual factors (e.g., economic factors, organizational climate) that may predict these differences or changes.

The lifespan perspective generally does not operate with the generations concept, but does distinguish between chronological age, birth cohort, and contemporaneous period effects. As described earlier, generational groups are inevitably linked to group members' chronological ages, as they are based on a range of adjacent birth years and typically examined at one point in time. Accordingly, tests of generational differences involve comparisons between two or more age groups (e.g., younger vs. older employees). In contrast to tenets #1, #2, and #3 of the lifespan perspective, generational thinking is static in that differences between generations are assumed to be stable over time. The possibility that members of younger generations may change with increasing age, or whether members of older generations have always shown certain attitudes, values, and behavior, are rarely investigated. Moreover, generational thinking typically adopts a simplistic view of differences between generational groups (e.g., "Generation A" has a lower work ethic than "Generation B") as compared to the more nuanced lifespan perspective with its focus on stability or multidirectional changes, as well as the joint occurrence of both gains and losses across time.

With regard to the lifespan perspective's tenet #4 (i.e., plasticity), generational researchers tend to treat generational groups as immutable (i.e., as they are a function of one's birth year) and their influences as deterministic (i.e., all members of a certain generation are expected to think and act in a certain way; so-called cohort determinism). In contrast, the lifespan perspective recognizes that there is plasticity, or within-person modifiability, in individual development at any age. Changes to the developmental trajectory for a given outcome can be caused by person factors (e.g., knowledge gained by long-term practice), contextual factors (e.g., organizational change), or both. For instance, lifespan researchers assume that humans enact agency over their environment and the course of their development. Development is not only a product of the context in which it takes place (e.g., culture, historical period) but also a product of individuals' decisions and actions. This notion underlies the principle of *developmental contextualism* (Lerner & Busch-Rossnagel, 1981), embodied within the idea that humans are both the *products* and the *producers* of their own developmental course.

Research on generations and intergenerational exchanges originated and still is considered an important topic in the field of sociology (Mayer, 2009), which emphasizes the role of the social, institutional, cultural, and historical contexts for human development (Settersten, 2017; Tomlinson, Baird, Berg, & Cooper, 2018). In contrast, the lifespan perspective, which originated in the field of psychology, places a stronger focus on individual differences and within-person variability. Nevertheless, the lifespan perspective's tenet #5 (i.e., contextualism) suggests that individual development is not only influenced by biological factors but also embedded within the broader sociocultural and historical context. This

context includes the historical period, economic conditions, as well as education and medical systems in which development unfolds. Even critics have acknowledged that these external factors are rather well-integrated within the lifespan perspective (Dannefer, 1984). That said, most empirical lifespan research has not distinguished between birth cohort and contemporaneous period effects.

For example, studies in the lifespan tradition have suggested that there are birth cohort effects on cognitive abilities and personality characteristics (Elder & Liker, 1982; Gerstorf, Ram, Hoppmann, Willis, & Schaie, 2011; Nesselroade & Baltes, 1974; Schaie, 2013). Possible explanations for these effects may be improvements in education, health and medical care, and the increasing complexity of work and home environments (Baltes, 1987). An important difference to generational research is that these analyses focus on individual development and outcomes and not on group-based differences.

In contrast to research in the field of sociology, the lifespan perspective generally does not make use of the generations concept and associated generational labels. Instead, in addition to people's age, lifespan research sometimes focuses on birth year cohorts (Baltes, 1968). However, the lifespan perspective does not assume that all individuals born in the same birth year automatically share certain life experiences or have similar perceptions of historical events (Kosloski, 1986). According to Baltes, Cornelius, and Nesselroade (1979), researchers interested in basic developmental processes (e.g., child developmental psychologists) that were established during humans' genetic and cultural evolution may treat potential cohort effects as error or as transitory, historical irregularities. In contrast, other researchers (e.g., social psychologists, sociologists) may focus less on developmental regularities and treat cohort effects as systematic differences in the levels of an outcome, with or without explicitly proposing a substantive theoretical mechanism or process variable that explains these cohort differences (e.g., poverty, access to high-quality education). Empirical research on generations is typically vague with regard to concrete theoretical mechanisms of assumed generational differences (i.e., beyond the notion of "shared life events and experiences," such as the Vietnam war, 9/11, or the COVID-19 pandemic) and typically does not operationalize and test these mechanisms.

In proposing the general developmental model, Schaie (1986) suggested decoupling the "empty variables" of birth cohort and time period from chronological age and re-conceptualizing them as more meaningful variables. Specifically, he re-defined cohort as "the total population of individuals entering the specified environment at the same point in time" and period as "historical event time," thereby uncoupling period effects from calendar time by identifying the timing and duration of the greatest influence of important historical events (Schaie & Hertzog, 1985, p. 92). Thus, the

time of entry for a cohort does not have to be birth year and can include biocultural time markers (e.g., puberty, parenthood) or societal markers (e.g., workforce entry, retirement; Schaie, 1986). Similarly, the more recent motivational theory of lifespan development has discussed cohort-defining events as age-graded opportunity structures (Heckhausen, Wrosch, & Schulz, 2010). Thus, from a lifespan perspective, cohorts are re-defined as an interindividual difference variable, whereas period is re-defined as an intraindividual change variable (Schaie, 1986).

Tenet #6 of the lifespan perspective suggests that individuals have to process, react to, and act upon normative age-graded, normative history-graded, and non-normative influences that co-determine developmental outcomes (Baltes, 1987). The interplay of these three influences leads to stability and change, as well as multidimensionality and multidirectionality in individual development (Baltes, 1987). Importantly, the use of the term “normative” is understood in a statistical–descriptive sense here, not in a value-based prescriptive sense; it is assumed that there are individual differences (e.g., due to gender, socioeconomic status) in the experience and effects of these influences (Baltes & Nesselroade, 1984). Moreover, the relative importance of these three influences can be assumed to change across the lifespan (Baltes, Reese, & Lipsitt, 1980). Specifically, normative age-graded influences are assumed to be more important in childhood and later adulthood than in adolescence and early adulthood (i.e., due to biological and evolutionary reasons). In contrast, normative history-graded determinants are assumed to be more important in adolescence and early adulthood than in childhood and old age (i.e., when biological and evolutionary factors are less important). Finally, non-normative influences are assumed to increase linearly in importance across the lifespan (Baltes et al., 1980; see also Rudolph & Zacher, 2017). Indeed, the assumed differential importance of these influences across the lifespan differs markedly from the cohort deterministic approach implied in generational theory and research.

According to Baltes et al. (1980), idiosyncratic life events become more important predictors of developmental outcomes with increasing age due to declines in biological and evolutionary-based genetic control over development and the increased heterogeneity and plasticity in developmental outcomes at higher ages. Despite the assumed relative strengths of these normative and non-normative influences across the lifespan, they are at no point completely irrelevant to individual development. For example, in the work context, the theoretical relevance of history-graded influences on work-related outcomes may be a factor that determines the strength of potential effects (Zacher, 2015b). For instance, experiencing a global pandemic is more likely to influence the development of individuals’ attitudes—not an entire generations’ collective attitudes—toward universal health care than it is to influence their job satisfaction. Moreover, individuals’ level of job

security may not only be influenced by the pandemic but also by their profession and levels of risk tolerance.

In summary, the lifespan development perspective offers a number of alternative explanations for the role of age and the process of aging at work that do not rely in generational explanations. Specifically, by recognizing that development is a lifelong process that is affected by multiple influences, this perspective helps to clarify the complexities of development, particularly the processes that lead to inter- and intraindividual changes over time. With a clearer sense of these two alternative perspectives, we next shift our attention to outlining various points of integration between them.

Integrating the Social Constructionist and Lifespan Development Perspectives

With a clearer sense of the core tenets of the social constructionist and lifespan development perspectives, we now turn our attention to clarifying lines of integration between these two approaches. While seemingly addressing different “corners” of the ideas presented here, there are a number of complementary features of the social constructionist and lifespan development perspectives to be noted. First, both perspectives generally eschew the idea that generations exist objectively and are meaningful units of study for explaining individual and group differences. Second, both perspectives offer that the complexities that underlie the understanding of age and the process of aging at work cannot be reduced to rather simple mean-level comparisons. Third, both perspectives are generative, in that they encourage research questions that go beyond common ways of thinking. Fourth, and relatedly, both perspectives provide frameworks for more “directly” studying aging and development—whether in the form of how we collectively understand and conceptualize these processes (the social constructionist perspective), or how individuals continuously and interactively shape their own life trajectory (the lifespan development perspective). Together, rather than relying on determinism, these perspectives capitalize on the subjective, dynamic, and agentic aspects of life in organizations and society, allowing for more rigorous and representative research into meaning, creation, stability, and change in context.

Commonalities Between Social Constructionist and Lifespan Development Perspectives

Beyond these complementary features, we propose six additional commonalities that serve as the basis for a more formal integration of these two perspectives with one another (see Table 2 for a summary). First, both perspectives recognize the role of context, in that both development (the lifespan development perspective) and sensemaking (the social

Table 2 Commonalities between the social constructionist and lifespan perspectives

Commonality	Social constructionist perspective	Lifespan development perspective
Commonality #1: Role of social context	- Sensemaking occurs in social context.	- Development occurs in social context.
Commonality #2: Active creation, negotiation, and codification	- Truth and meaning emerge from collective dialogue, understanding, and tradition, acceptance, and institutionalization.	- Identity, beliefs, and habits or behaviors emerge over time through active self-regulatory and motivational processes, discovery, and (self)-acceptance and selectivity.
Commonality #3: Fundamental roles of internal and external comparison	- Social constructions are applied externally (e.g., stereotypes) as well as internally (i.e., to make sense of one's own behavior and identity).	- "Successful development" is compared externally (e.g., in comparison with important others, normative age expectations and timetables) and internally (e.g., in comparison with younger or desired state selves).
Commonality #4: Learning and reinforcement from environmental sources	- Constructions are derived from and reinforced by multiple sources, including those with perceived status, "weight," and legitimacy.	- Both adaptiveness (e.g., how "well" someone is developing/aging) and the self (as well as identities, behaviors, etc.) are learned from and reinforced by feedback from various aspects of environment.
Commonality #5: Continuous evolution, revision, and change	- Social constructions are constantly re-defined and re-emerge into public consciousness.	- There is no single linear or normatively staged process that can define development; development is modifiable across the full lifespan.
Commonality #6: Predictable influences characterize certain spans of time, especially around a significant event or "turning point"	- Many social constructions, although in constant flux and redefinition, fall back on the same key concepts due to their pervasiveness in public consciousness (e.g., laziness of youth) at certain "key moments" in history (e.g., to explain or cope with societal change).	- Although complex and plastic, development has certain predictable aspects and influences due to their significance in the life course (e.g., age-graded socialization events).

constructionist perspective) occur within social contexts. Second, both perspectives describe processes of action, creation, negotiation, and/or codification. Whereas the lifespan perspective focuses on how these processes create identity, beliefs, and habits or behaviors that emerge over time through active self-regulatory, motivational processes, discovery, and (self)acceptance/selectivity, the social constructionist perspective focuses more so on the development of truths and meaning that emerge from collective dialogues, understandings, and traditions through acceptance and institutionalization. Third, both perspectives acknowledge the fundamental roles of internal and external comparisons. For example, the lifespan perspective offers that successful development is judged both externally (e.g., in comparison with important others, normative age expectations, or timetables) and internally (e.g., in comparison with younger or desired state selves). Similarly, social constructions can be focused externally (e.g., in the form of stereotypes) as well as internally (i.e., to make sense of one's own behavior or identity).

Fourth, both perspectives highlight learning and reinforcement processes that are derived from environmental sources. The lifespan perspective offers that adaptiveness (e.g., how successfully someone is developing/aging) and the self (as well as identities, values, behaviors, etc.) are learned from and reinforced by feedback from various aspects of the environment. Similarly, social constructions are derived from and reinforced by multiple environmental sources, including those

with perceived status, "weight," and legitimacy. Fifth, by offering that development is a modifiable, discontinuous process (the lifespan development perspective) and that social constructions are constantly re-defined and re-emerge into public consciousness (the social constructionist perspective), both perspectives focus on continuous evolution, revision, and change. The final commonality to be drawn across these two perspectives is that they both focus on predictable influences that characterize certain spans of time, especially around significant events or "turning points." The lifespan perspective offers that, although complex and plastic, development does have some predictable aspects and influences due to their significance in the life course (e.g., age-graded events). Complimenting this, many social constructions, although in constant flux and redefinition, fall back on the same key concepts due to their pervasiveness in public consciousness (e.g., the laziness of youth) at certain "key moments" in history (e.g., to explain or cope with societal change).

Limitations of These Alternative Perspectives

Beyond the benefits of considering alternative models to generations, and integrations thereof, it is important to mention the limitations of these alternative perspectives. For example, it could be argued that, because it does not provide formalized predictions, the social constructionist perspective is "hard to study." Additionally, the lifespan perspective can be

criticized, just as it is lauded, for its focus on individual agency: as noted earlier, psychological perspectives often place a premium on studying individual-level mechanisms rather than other levels of influence (Rauvola & Rudolph, 2020). Thus, without directed efforts on the part of researchers to attend to these aspects of lifespan development theory in their work, it can be easy to fall into the “trap” of ignoring structural factors (e.g., socioeconomic status, governmental policy, institutionalized discrimination) that have bearing on and may constrain individuals’ agentic influence on their life trajectory (for an integration of the psychological lifespan perspective and the sociological life course perspective in the context of vocational behavior and career development, see Zacher & Froidevaux, 2020). Still, and for the many reasons noted throughout this manuscript, we do not contend that generational cohort membership is one of these structural factors, and a generational approach ignores these other forces even more flagrantly.

Recommendations for Adopting Alternative Theoretical Perspectives on Generations

Overall, we argue that organizational researchers and practitioners should move beyond the notion of generations for understanding the complexities of age at work. To do so, we urge the adoption of the alternative theoretical models we have outlined here, as well as considerations of their integration. To this end, those interested in studying the role of age at work should adopt a lifespan, rather than a generational, perspective, whereas those interested in studying the persistence of generational thinking would be well served to consider the adoption of a social constructionist perspective. Moreover, to understand more holistically the role of age and the construction of aging at work, it may be useful to adopt an integrative view on these two perspectives, embodied within the six commonalities between them that we have outlined above (see also Table 2).

Generational thinking is problematic because it assumes that aggregate social phenomena can explain individual-level attitudes, values, and behavior. In contrast, adopting a lifespan perspective means taking a multidisciplinary lens to understanding age-related differences and changes at work by specifically focusing on how the interplay between person characteristics and contextual variables serve to modify individual development. Moreover, the social constructionist perspective offers guidance for unpacking the meanings people attach to assumptions that are made about these aggregate social phenomena, further aiding in understanding the complexities at play here. We consider recommendations for research and practice adopting these perspectives, next.

Recommendations for Adopting the Social Constructionist Perspective

The social constructionist perspective on generations highlights a number of potential areas for research and practice. Given their longstanding and culturally/historically embedded nature, the social constructionist perspective recognizes that the idea of generations is not likely to go away, even with a lack of empirical methods or evidence to support their existence. Instead, this perspective calls for a paradigm shift in generational research and practice, away from the rather positivist notion of “seeking out” generational differences and instead toward a focus on studying and understanding those processes that support the social construction of generations to begin with. Considering research, the focus could be on those antecedents (e.g., intergroup competition and discrimination; North & Fiske, 2012; i.e., to address the question, “Why do these social constructions emerge?”) and outcomes (e.g., self-fulfilling prophecies—i.e., to address the question, “What are the consequences of willing generations into being?”) of socially constructed generations.

Conducting research from a social constructionist perspective requires adopting methodologies that may not be common in organizational researchers’ “tool kits.” For example, Rudolph and Zacher (2015) used sentiment analysis, a natural language processing methodology, to analyze the content of Twitter dialogues concerning various generational groups to understand the relative sentiment associated with each. Indeed, it would arguably be difficult to study generations from this perspective by adopting a typical frequentist approach to hypothesis testing. This perspective is less about gathering evidence “against the null hypothesis” that generations or differences between them exist in a more or less “objective” (i.e., measurable) way. Instead, it is more about understanding, phenomenologically, the various processes that give rise to people’s subjective construction of generations, the systems that facilitate attaching meaning to generational labels, and the structures that support our continued reliance on generations as a sensemaking tool in spite of logical and empirical arguments against doing so.

More practically, understanding why people think in terms of generations can help us to develop interventions that are targeted at helping people think less in terms of generations and more in terms of individuating people on the basis of the various processes outlined in our description of the lifespan perspective (i.e., personal characteristics; idiosyncratic and contextual factors). The social constructionist perspective also encourages changing the discourse among practitioners, shifting the focus away from managing generations as discrete groups and toward developing more age-conscious personnel practices, policies, and procedures that support workers across the entirety of their working lifespans (e.g., Rudolph & Zacher, 2020c). We thus urge practitioners to adopt a social

constructionist perspective and shift focus away from promoting processes to manage members of different generations to a focus on managing the perceptions of generations and their differences. By recognizing the constructed nature of generations, the social constructionist perspective decouples beliefs about generations from these broad and overgeneralized assumptions about their influence on individuals.

Recommendations for Adopting the Lifespan Perspective

Just as the social constructionist perspective highlights a number of potential areas for research and practice, so too does the lifespan perspective. To this end, and to move research on the lifespan perspective on generations forward, Rudolph and Zacher (2017) argued that, at the individual level of analysis, the influence of age-graded and historical/contextual influences are inherently codetermined and inseparable. Accordingly, in their lifespan perspective on generations, they proposed that the influence of historically graded and sociocultural context variables occurs at the individual level of analysis only, and not as a manifestation of shared generational effects (proposition 1). They suggested that future research should focus on individual-level indicators of historical and sociocultural influences. Furthermore, they argued that age, period, and cohort effects are both theoretically and empirically confounded and, thus, inseparable (proposition 2). Finally, consistent with Schaie's (1986) general developmental model, they suggested that cohorts should be operationalized as interindividual differences, whereas period effects should be defined in terms of intraindividual changes (proposition 3).

In terms of more practical implications of the lifespan perspective, we urge practitioners to adopt principles of lifespan development in the design of age-conscious work processes, interventions, and policies that do not rely on generations as a means of representing age. Indeed, researchers and practitioners alike should take steps to avoid the pitfalls of “generational thinking,” which yields several dangers that can be overcome by lifespan thinking (Rauvola et al., 2019; Rudolph et al., 2018; Rudolph & Zacher, 2020c). First, generational thinking categorizes individuals into arbitrary generational groups based on a single criterion (i.e., birth year) and is therefore socially exclusive rather than inclusive; in contrast, the lifespan perspective conceptualizes and operationalizes age directly as a continuous variable (Baltes, 1987). Second, generational thinking reduces complex age-related processes into a simplistic dichotomy at a single point in time; the lifespan perspective adopts a multidimensional, multidirectional, and multilevel approach to represent the complexities of aging more appropriately. Third, generational thinking overemphasizes the role of (ranges of) birth cohorts in influencing work outcomes; in contrast, the lifespan

perspective emphasizes interindividual differences and intraindividual development (as well as interindividual differences *in* intraindividual development). Finally, generational thinking is dangerous because it assumes that generational group membership determines individual attitudes, values, and behavior. In contrast to this, the lifespan perspective, which entails the notion of plasticity, suggests that intraindividual changes in developmental paths are possible at any age and that individuals can enact control and influence their own development.

Conclusions

This manuscript sought to achieve two goals, related to helping various constituents better understand the complexities of age and aging at work, and dissuade the use of generations and generational differences as a means of understanding and simplifying such complexities. First, we aimed to “bust” ten common myths about generations and generational differences that permeate various discussions in organizational sciences research and practice and beyond. Then, with these debunked myths as a backdrop, we offered two complementary alternative models—the social constructionist perspective and the lifespan perspective—with promise for helping organizational scientists and practitioners better understand and manage age and the process of aging in the workplace and comprehend the pervasive nature of generations as a means of social sensemaking. The social constructionist perspective calls for a shift in thinking about generations as tangible and demonstrable units of study, to socially constructed entities, the existence of which is in-and-of-itself worthy of study. Supplementing these ideas, the lifespan perspective offers that rather than focusing on simplified, rather deterministic groupings of people into generations, development occurs in a continuous, multicausal, multidirectional, and multidimensional process. Our hope is that this manuscript helps to “redirect” talk about generations away from their colloquial use to a more critical and informed perspective on age and aging at work.

References

- Abrahamson, E. (1991). Managerial fads and fashions: The diffusion and rejection of innovations. *Academy of Management Review*, 16, 586–612. <https://doi.org/10.2307/258919>.
- Abrahamson, E. (1996). Management fashion, academic fashion, and enduring truths. *Academy of Management Review*, 21, 616–618.
- Adamczyk, A. (2019, September 29). Millennials are fleeing big cities for the suburbs. CNBC. Retrieved from: <https://www.cnbc.com/2019/09/29/millennials-are-fleeing-big-cities-for-the-suburbs.html>

- Adkins, A. (2016, May 12). Millennials: The job-hopping generation. Gallup. Retrieved from: <https://www.gallup.com/workplace/231587/millennials-job-hopping-generation.aspx>
- Alon, T. M., Doepke, M., Olmstead-Rumsey, J., & Tertilt, M. (2020). The impact of COVID-19 on gender equality (No. w26947). National Bureau of Economic Research. Retrieved from <https://www.nber.org/papers/w26947>
- Baldonado, A. M. (2013). Motivating Generation Y and virtual teams. *Open Journal of Business and Management*, 1, 39–44. <https://doi.org/10.4236/ojbm.2013.12006>.
- Baltes, B. B., & Dickson, M. W. (2001). Using life-span models in industrial-organizational psychology: The theory of selective optimization with compensation. *Applied Developmental Science*, 5, 51–62. https://doi.org/10.1207/S1532480XADS0501_5.
- Baltes, B. B., Rudolph, C. W., & Zacher, H. (Eds.). (2019). *Work across the lifespan*. London: Academic Press.
- Baltes, P. B. (1968). Longitudinal and cross-sectional sequences in the study of age and generation effects. *Human Development*, 11, 145–171. <https://doi.org/10.1159/000270604>.
- Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23, 611–626. <https://doi.org/10.1037/0012-1649.23.5.611>.
- Baltes, P. B., Cornelius, S. W., & Nesselroade, J. R. (1979). Cohort effects in developmental psychology. In J. R. Nesselroade & P. B. Baltes (Eds.), *Longitudinal research in the study of behavior and development* (pp. 61–87). Academic Press.
- Baltes, P. B., Lindenberger, U., & Staudinger, U. M. (1998). Life-span theory in developmental psychology. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (5th ed., pp. 1029–1143). Wiley.
- Baltes, P. B., & Mayer, K. U. (Eds.). (2001). *The Berlin aging study: Aging from 70 to 100*. Cambridge University Press.
- Baltes, P. B., & Nesselroade, J. R. (1984). Paradigm lost and paradigm regained: Critique of Dannefer's portrayal of life-span developmental psychology. *American Sociological Review*, 49, 841–847. <https://doi.org/10.2307/2095533>.
- Baltes, P. B., Reese, H. W., & Lipsitt, L. P. (1980). Life-span developmental psychology. *Annual Review of Psychology*, 31, 65–110. <https://doi.org/10.1146/annurev.ps.31.020180.000433>.
- Barroso, A., Parker, K., & Bennet, J. (2020, May 27). How millennials approach family life. Pew Research Center's Social & Demographic Trends Project. Retrieved from: <https://www.pewsocialtrends.org/2020/05/27/as-millennials-near-40-theyre-approaching-family-life-differently-than-previous-generations/>
- Bell, A., & Jones, K. (2013). The impossibility of separating age, period and cohort effects. *Social Science & Medicine*, 93, 163–165. <https://doi.org/10.1016/j.socscimed.2013.04.029>.
- Bell, A., & Jones, K. (2014). Another 'futile quest'? A simulation study of Yang and Land's hierarchical age-period-cohort model. *Demographic Research*, 30, 333–360. <https://doi.org/10.4054/DemRes.2013.30.11>.
- Berger, P. L., & Luckman, T. (1966). *The social construction of reality. A treatise in the sociology of knowledge*. New York: Penguin Books.
- Bianchi, E. C. (2014). Entering adulthood in a recession tempers later narcissism. *Psychological Science*, 25, 1429–1437. <https://doi.org/10.1177/0956797614532818>.
- Bohlmann, C., Rudolph, C. W., & Zacher, H. (2018). Methodological recommendations to move research on work and aging forward. *Work, Aging and Retirement*, 4(3), 225–237. <https://doi.org/10.1093/workar/wax023>.
- Böhm, S. A., Kunze, F., & Bruch, H. (2014). Spotlight on age-diversity climate: The impact of age-inclusive HR practices on firm-level outcomes. *Personnel Psychology*, 67, 667–704. <https://doi.org/10.1111/peps.12047>.
- Bryan, C. (2017, Jul 31). RIP: Here are 70 things millennials have killed. Mashable. Retrieved from <https://mashable.com/2017/07/31/things-millennials-have-killed/>
- Bui, Q., & Miller, C. C. (2018, August 4). The age that women have babies: How a gap divides America. The New York Times. Retrieved from <https://www.nytimes.com/interactive/2018/08/04/upshot/up-birth-age-gap.html>.
- Bui, T. T. M., Button, P., & Picciotti, E. G. (2020). Early evidence on the impact of COVID-19 and the recession on older workers (No. w27448). National Bureau of Economic Research.
- Burr, V. (2003). *Social constructionism*. London: Routledge.
- Campbell, S. M., Twenge, J. M., & Campbell, W. K. (2017). Fuzzy but useful constructs: Making sense of the differences between generations. *Work, Aging and Retirement*, 3, 130–139. <https://doi.org/10.1093/workar/wax001>.
- Cenkus, B. (2017, November 19). Millennials will work hard, just not for your crappy job. Medium. Retrieved from: <https://medium.com/swlh/millennials-will-work-hard-just-not-for-your-crappy-job-82c12a1853ed>
- Costanza, D. P., Badger, J. M., Fraser, R. L., Severt, J. B., & Gade, P. A. (2012). Generational differences in work-related attitudes: A meta-analysis. *Journal of Business and Psychology*, 27, 375–394. <https://doi.org/10.1007/s10869-012-9259-4>.
- Costanza, D. P., Darrow, J. B., Yost, A. B., & Severt, J. B. (2017). A review of analytical methods used to study generational differences: Strengths and limitations. *Work, Aging and Retirement*, 3, 149–165. <https://doi.org/10.1093/workar/wax002>.
- Costanza, D. P., & Finkelstein, L. M. (2015). Generationally-based differences in the workplace: Is there a there there? *Industrial and Organizational Psychology: Perspectives on Sciences and Practice*, 8, 308–323. <https://doi.org/10.1017/iop.2015.15>.
- Costanza, D. P., Finkelstein, L. M., Imose, R. A., & Ravid, D. M. (2020). Inappropriate inferences from generational research. In B. Hoffman, M. Shoss, & L. Wegman (Eds.), *The Cambridge handbook of the changing nature of work*. Cambridge, MA: Cambridge University Press.
- Dannefer, D. (1984). Adult development and social theory: A paradigmatic reappraisal. *American Sociological Review*, 49, 100–116.
- Dao, J. (2011, September 6). They signed up to fight. The New York Times. Retrieved from <https://www.nytimes.com/2011/09/06/us/sept-11-reckoning/troops.html>
- Deal, J. J., Altman, D. G., & Rogelberg, S. G. (2010). Millennials at work: What we know and what we need to do (if anything). *Journal of Business and Psychology*, 25, 191–199. <https://doi.org/10.1007/s10869-010-9177-2>.
- Dencker, J. C., Joshi, A., & Martocchio, J. J. (2008). Towards a theoretical framework linking generational memories to workplace attitudes and behaviors. *Human Resource Management Review*, 18, 180–187. <https://doi.org/10.1016/j.hmr.2008.07.007>.
- Desilver, D. (2019, June 27). In the U.S., teen summer jobs aren't what they used to be. Pew Research. Retrieved from: <https://www.pewresearch.org/fact-tank/2019/06/27/teen-summer-jobs-in-us/>
- Dimock, M. (2019, January 17). Defining generations: Where Millennials end and Generation Z begins. Pew Research. Retrieved from: <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>
- Donnellan, M. B., Hill, P. L., & Roberts, B. W. (2015). Personality development across the lifespan: Current findings and future directions. In M. Mikulincer, P. R. Shaver, M. L. Cooper, & R. J. Larsen (Eds.), *APA handbook of personality and social psychology, Volume 4: Personality processes and individual differences* (pp. 107–126). <https://doi.org/10.1037/14343-005>.
- Douglas, M., Katikireddi, S. V., Taulbut, M., McKee, M., & McCartney, G. (2020). Mitigating the wider health effects of COVID-19 pandemic response. *BMJ*, 369. <https://doi.org/10.1136/bmj.m1557>.

- Dries, N., Pepermans, R., & De Kerpel, E. (2008). Exploring four generations' beliefs about career: Is "satisfied" the new "successful"? *Journal of Managerial Psychology*, 23, 907–928. <https://doi.org/10.1108/02683940810904394>.
- Elder, G. H. (1994). Time, human agency, and social change: Perspectives on the life course. *Social Psychology Quarterly*, 57, 4–15. <https://doi.org/10.2307/2786971>.
- Elder, G. H., & Liker, J. K. (1982). Hard times in women's lives: Historical influences across forty years. *American Journal of Sociology*, 88, 241–269. <https://doi.org/10.1086/227670>.
- Erikson, E. H. (1950). *Childhood and society*. New York, NY: Norton.
- Eschleman, K. J., King, M., Mast, D., Ormellas, R., & Hunter, D. (2016). The effects of stereotype activation on generational differences. *Work, Aging and Retirement*, 1–9. <https://doi.org/10.1093/workar/waw032>.
- Gerstorf, D., Ram, N., Hoppmann, C., Willis, S. L., & Schaie, K. W. (2011). Cohort differences in cognitive aging and terminal decline in the Seattle Longitudinal Study. *Developmental Psychology*, 47, 1026–1041. <https://doi.org/10.1037/a0023426>.
- Glenn, N. D. (1976). Cohort analysts' futile quest: Statistical attempts to separate age, period and cohort effects. *American Sociological Review*, 41, 900–904. <https://doi.org/10.2307/2094738>.
- Glenn, N. D. (2005). *Cohort analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Godfrey, N. (2016, May 22) Will millennials just uber their life? Forbes. From: <https://www.forbes.com/sites/nealegodfrey/2016/05/22/will-millennials-just-uber-their-life/>
- Goodkind, N. (2020, February 20). Facing falling enlistment numbers, the U.S. Army takes a new approach to recruitment: Mom and dad. Fortune. Retrieved from <https://fortune.com/2020/02/20/army-military-enlistment-recruitment-ads/>
- Graff, G. M. (2019, September 11). The 9/11 generation comes of age. Wall Street Journal. Retrieved from <https://www.wsj.com/articles/the-9-11-generation-comes-of-age-11568213715>
- Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span development. *Psychological Review*, 117, 32–60. <https://doi.org/10.1037/a0017668>.
- Helling, S. (2017, October 16). Baby Jessica on the 30 year anniversary of her rescue from a well: Her life as a wife and mom. People Magazine. From: <https://people.com/human-interest/baby-jessica-on-the-30-year-anniversary-of-her-rescue-from-a-well-her-life-as-a-wife-and-mom/>
- Heyns, E. P., Eldermire, E. R., & Howard, H. A. (2019). Unsubstantiated conclusions: A scoping review on generational differences of leadership in academic libraries. *The Journal of Academic Librarianship*, 45(5), 102054. <https://doi.org/10.1016/j.acalib.2019.102054>.
- Hilton, J. L., & Von Hippel, W. (1996). Stereotypes. *Annual Review of Psychology*, 47, 237–271. <https://doi.org/10.1146/annurev.psych.47.1.237>.
- Hirsch, P. B. (2020). Follow the dancing meme: Intergenerational relations in the workplace. *Journal of Business Strategy*, 41(32), 67–71. <https://doi.org/10.1108/JBS-02-2020-0034>.
- Hogg, M. A. (2000). Subjective uncertainty reduction through self-categorization: A motivational theory of social identity processes. *European Review of Social Psychology*, 11, 223–255. <https://doi.org/10.1080/14792772043000040>.
- Horovitz, B. (2012, May 4). After Gen X, Millennials, what should next generation be? USA Today. From <http://usatoday30.usatoday.com/money/advertising/story/2012-05-03/naming-the-next-generation/54737518/1>
- Howe, N., & Strauss, W. (2000). Millennials rising: The next great generation. Vintage.
- Howe, N., & Strauss, W. (2007). The next 20 years: How customer and workforce attitudes will evolve. *Harvard Business Review*, 85, 41–52.
- Hughes, J. (2020, February 20). Need to keep Gen Z workers happy? Hire a 'generational consultant'. New York Times Magazine. From <https://www.nytimes.com/interactive/2020/02/19/magazine/millennials-gen-z-consulting.html>.
- Illies, F. (2003). *Generation Golf zwei*. Munich, Germany: Blessing.
- Jauregui, J., Watsjold, B., Welsh, L., Ilgen, J. S., & Robins, L. (2020). Generational 'othering': The myth of the Millennial learner. *Medical Education*, 54(1), 60–65. <https://doi.org/10.1111/medu.13795>.
- Kanfer, R., Lyndgaard, S. F., & Tatel, C. E. (2020). For whom the pandemic tolls: a person-centric analysis of older workers. *Work, Aging and Retirement*. <https://doi.org/10.1093/workar/waaa014>.
- Keeley, S. (2016, May 25). Derek Jeter has had it with millennials and their lack of interest in baseball. The Comeback. Retrieved from <https://thecomeback.com/mlb/derek-jeter-millennials.html>
- Kertzer, D. I. (1983). Generation as a sociological problem. *Annual Review of Sociology*, 9, 125–149. <https://doi.org/10.1146/annurev.so.09.080183.001013>.
- King, E., Finkelstein, L., Thomas, C., & Corrington, A. (2019). Generational differences at work are small. Thinking they're big affects our behavior. Harvard Business Review. Retrieved from <https://hbr.org/2019/08/generational-differences-at-work-are-small-thinking-theyre-big-affects-our-behavior>.
- Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S.P., Bakker, A.B., Bamberger, P., Bapuji, H., Bhawe, D.P., Choi, V.K., Creary, S.J., Demerouti, E., Flynn, F.J., Gelfand, M.J., Greer, L.L., Johns, G., Kesebir, S., Klein, P.G., Lee, S.Y., Ozelik, H., Petriglieri, J.L., Rothbard, N.P., Rudolph, C.W., Shaw, J.D., Sirola, N., Wanberg, C.R., Whillans, A., Wilmot, M.P., & Van Vugt, M. (2020, In press). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist*.
- Knight, R. (2014). Managing people from 5 generations. *Harvard Business Review*, 25(9), 1–7.
- Kosloski, K. (1986). Isolating age, period, and cohort effects in developmental research: A critical review. *Research on Aging*, 8, 460–479. <https://doi.org/10.1177/0164027586008004002>.
- Kramer, M. W. (1999). Motivation to reduce uncertainty: A reconceptualization of uncertainty reduction theory. *Management Communication Quarterly*, 13, 305–316. <https://doi.org/10.1177/0893318999132007>.
- Kulik, C. T. (2004). *Human resources for the non-HR manager*. Psychology Press.
- Leeds-Hurwitz, W. (2009). Social construction of reality. In S. W. Littlejohn & K. A. Foss (Eds.), *Encyclopedia of communication theory* (pp. 891–894). Thousand Oaks, California: SAGE. <https://doi.org/10.4135/9781412959384.n344>.
- Lerner, R. M., & Busch-Rossnagel, N. A. (1981). *Individuals as producers of their development: A life-span perspective*. New York, NY: Academic Press.
- Levinson, D. J., Darrow, C. N., Klein, E. B., Levinson, M. H., & McKee, B. (1978). *The seasons of a man's life*. Ballantine Books.
- Lindquist, T. M. (2008). Recruiting the millennium generation: The new CPA. *The CPA Journal*, 78, 56–59.
- Lock, A., & Strong, T. (2010). *Social constructionism: Sources and stirrings in theory and practice*. Cambridge, MA: Cambridge University Press.
- Lyons, S., & Kuron, L. (2014). Generational differences in the workplace: A review of the evidence and directions for future research. *Journal of Organizational Behavior*, 35, S139–S157. <https://doi.org/10.1002/job.1913>.
- Lyons, S., Urlick, M., Kuron, L., & Schweitzer, L. (2015). Generational differences in the workplace: There is complexity beyond the stereotypes. *Industrial and Organizational Psychology*, 8, 346–356. <https://doi.org/10.1017/iop.2015.48>.
- Lyons, S. T., & Schweitzer, L. (2017). A qualitative exploration of generational identity: Making sense of young and old in the context of

- today's workplace. *Work, Aging and Retirement*, 3, 209–224. <https://doi.org/10.1093/workar/waw024>.
- Mailliet, A. & Saltz, J. (2017, September 22). 'Generation Merkel' yearns for continuity and stability. France 24. From: <https://www.france24.com/en/20170922-focus-germany-angela-merkel-youth-generation-and-vote-elections>
- Mannheim, K. (1952). The problem of generations. In P. Kecskemeti (Ed.), *Essays in the sociology of knowledge* (pp. 276–322). Boston, MA: Routledge & Kegan Paul (Original work published 1927).
- Mayer, K. U. (2009). New directions in life course research. *Annual Review of Sociology*, 35, 423–424. <https://doi.org/10.1146/annurev.soc.34.040507.134619>.
- McConahay, J. B., Hardee, B. B., & Batts, V. (1981). Has racism declined in America? It depends on who is asking and what is asked. *Journal of Conflict Resolution*, 25, 563–579. <https://doi.org/10.1177/002200278102500401>.
- McCrindle, M., & Wolfinger, E. (2009). *The ABC of XYZ: Understanding the global generations*. Sydney: University of New South Wales Press Ltd..
- Mulvany, L. & Patton, L. (2018, October 10). Millennials kill again. The latest victim? American cheese. Time Magazine. Retrieved from: <https://time.com/5420369/millennials-kill-american-cheese/>
- National Academies of Sciences, Engineering, and Medicine (2020a). Categorizing workers' needs by generation such as Baby Boomers or Millennials is not supported by research or useful for workforce management. National Academies. Retrieved from: <https://www.nationalacademies.org/news/2020/07/categorizing-workers-needs-by-generation-such-as-baby-boomers-or-millennials-is-not-supported-by-research-or-useful-for-workforce-management>
- National Academies of Sciences, Engineering, and Medicine. (2020b). *Are generational categories meaningful distinctions for workforce management?* Washington, DC: The National Academies Press. <https://doi.org/10.17226/25796>.
- Nesselroade, J. R., & Baltes, P. B. (1974). Adolescent personality development and historical change: 1970–1972. *Monographs of the Society for Research in Child Development*, 39, 1–80.
- Nicholls, D. (2019, Jan 3). British Army targets 'snowflakes, binge gamers and me, me, me millennials' in new recruitment drive. The Telegraph. Retrieved from <https://www.telegraph.co.uk/news/2019/01/03/army-targets-snowflakes-binge-gamers-millennials-new-recruitment/>
- North, M. S., & Fiske, S. T. (2012). An inconvenienced youth? Ageism and its potential intergenerational roots. *Psychological Bulletin*, 138, 982–997. <https://doi.org/10.1037/a0027843>.
- Okros, A. (2020). Generational theory and cohort analysis. In A. Okros (Ed.), *Harnessing the potential of digital post-Millennials in the future workplace* (pp. 33–51). Cham: Springer.
- Ortega y Gasset, J. (1933). *The modern theme*. New York, NY: Norton.
- Papavasileiou, E. F. (2017). Age-based generations at work: A culture-specific approach. In E. Parry & J. McCarthy (Eds.), *The Palgrave handbook of age diversity and work* (pp. 521–538). London: Palgrave Macmillan.
- Patel, J. (2020, Mar 4). "Generation Corona" will miss out on life's opportunities. New creative spaces can help. Euronews. Retrieved from <https://www.euronews.com/2020/04/03/generation-corona-will-miss-out-on-life-s-opportunities-new-creative-spaces-can-help-view>.
- Perry, E. L., Hanvongse, A., & Casoinic, D. A. (2013). Making a case for the existence of generational stereotypes: A literature review and exploratory study. In J. Field, R. J. Burke, & C. L. Cooper (Eds.), *The SAGE handbook of aging, work and society* (pp. 416–442). Thousand Oaks: Sage.
- Pilcher, J. (1994). Mannheim's sociology of generations: An undervalued legacy. *British Journal of Sociology*, 45, 481–495. <https://doi.org/10.2307/591659>.
- Protzko, J., & Schooler, J. W. (2019). Kids these days: Why the youth of today seem lacking. *Science Advances*, 5, eaav5916. doi:<https://doi.org/10.1126/sciadv.aav5916>.
- Rabin v. PriceWaterhouseCoopers LLP, 236 F. Supp. 3d 1126 (N.D. Cal. 2017).
- Raphelson, S. (2014, Oct 6). From GIs to Gen Z (or is it iGen?): How generations get nicknames. National Public Radio. Retrieved from <https://www.npr.org/2014/10/06/349316543/don-t-label-me-origins-of-generational-names-and-why-we-use-them>.
- Rauvola, R. S., & Rudolph, C. W. (2020). On the limits of agency for successful aging at work. *Industrial and Organizational Psychology: Perspectives on Science and Practice*.
- Rauvola, R. S., Rudolph, C. W., & Zacher, H. (2019). Generationalism: Problems and implications. *Organizational Dynamics*, 48, 100664. <https://doi.org/10.1016/j.orgdyn.2018.05.006>.
- Raymer, M., Reed, M., Spiegel, M., & Purvanova, R. K. (2017). An examination of generational stereotypes as a path towards reverse ageism. *The Psychologist-Manager Journal*, 20(3), 148–175. <https://doi.org/10.1037/mgr0000057>.
- Robinson, W. S. (1950). Ecological correlations and the behavior of individuals. *American Sociological Review*, 15(3), 351–357.
- Romano, A. (2019, November 19). "OK boomer" isn't just about the past, it's about our apocalyptic future. Vox. Retrieved from <https://www.vox.com/2019/11/19/20963757/what-is-ok-boomer-meme-about-meaning-gen-z-millennials>
- Røvik, K. A. (2011). From fashion to virus: An alternative theory of organizations' handling of management ideas. *Organization Studies*, 32, 631–653. <https://doi.org/10.1177/0170840611405426>.
- Rudolph, C. W. (2015). A note on the folly of cross-sectional operationalizations of generations. *Industrial and Organizational Psychology*, 8, 362–366. <https://doi.org/10.1017/iop.2015.50>.
- Rudolph, C. W. (2016). Lifespan developmental perspectives on working: A literature review of motivational theories. *Work, Aging and Retirement*, 2, 130–158. <https://doi.org/10.1093/workar/waw012>.
- Rudolph, C. W., Allan, B., Clark, M., Hertel, G., Hirschi, A., Kunze, F., Shockley, K., Shoss, M., Sonnentag, S., & Zacher, H. (2020). Pandemics: Implications for research and practice in industrial and organizational psychology. *Industrial and Organizational Psychology: Perspectives on Science and Practice*.
- Rudolph, C. W., & Baltes, B. B. (2017). Age and health jointly moderate the influence of flexible work arrangements on work engagement: Evidence from two empirical studies. *Journal of Occupational Health Psychology*, 22(1), 40–58. <https://doi.org/10.1037/a0040147>.
- Rudolph, C. W., Costanza, D. P., Wright, C., & Zacher, H. (2019). Cross-temporal meta-analysis: A conceptual and empirical critique. *Journal of Business and Psychology*, 1–18. <https://doi.org/10.1007/s10869-019-09659-2>.
- Rudolph, C. W., Rauvola, R. S., & Zacher, H. (2018). Leadership and generations at work: A critical review. *The Leadership Quarterly*, 29, 44–57. <https://doi.org/10.1016/j.leaqua.2017.09.004>.
- Rudolph, C. W., Rauvola, S., Costanza, D. P., & Zacher, H. (2020). Answers to 10 questions about generations and generational differences in the workplace. *Public Policy & Aging Report*, praa010. <https://doi.org/10.1093/ppar/praa010>.
- Rudolph, C. W., & Zacher, H. (2015). Intergenerational perceptions and conflicts in multi-age and multigenerational work environments. In L. M. Finkelstein, D. M. Truxillo, F. Fraccaroli, & R. Kanfer (Eds.), *SIOP organizational frontiers series. Facing the challenges of a multi-age workforce: A use-inspired approach* (pp. 253–282). Routledge/Taylor & Francis Group.
- Rudolph, C. W., & Zacher, H. (2017). Considering generations from a lifespan developmental perspective. *Work, Aging and Retirement*, 3, 113–129. <https://doi.org/10.1093/workar/waw019>.

- Rudolph, C. W., & Zacher, H. (2018). The kids are alright: Taking stock of generational differences at work. *The Industrial-Organizational Psychologist*, 55, 1–7.
- Rudolph, C. W., & Zacher, H. (2020a). “The COVID-19 Generation”: A cautionary note. *Work, Aging and Retirement*.
- Rudolph, C. W., & Zacher, H. (2020b). COVID-19 and careers: On the futility of generational explanations. *Journal of Vocational Behavior*, 119, 103433. <https://doi.org/10.1016/j.jvb.2020.103433>.
- Rudolph, C. W., & Zacher, H. (2020c). Managing employees across the working lifespan. In B. Hoffman, M. Shoss, & L. Wegman (Eds.), *The Cambridge handbook of the changing nature of work* (pp. 425–445). Cambridge: Cambridge University Press.
- Rudolph, C. W., & Zacher, H. (2020d). Age inclusive human resource practices, age diversity climate, and work ability: Exploring between-and within-person indirect effects. *Work, Aging and Retirement*. <https://doi.org/10.1093/workar/waaa008>.
- Ryder, N. B. (1965). The cohort as a concept in the study of social change. *American Sociological Review*, 30, 843–861. <https://doi.org/10.2307/2090964>.
- Schaie, K. W. (1986). Beyond calendar definitions of age, time, and cohort: The general developmental model revisited. *Developmental Review*, 6, 252–277. [https://doi.org/10.1016/0273-2297\(86\)90014-6](https://doi.org/10.1016/0273-2297(86)90014-6).
- Schaie, K. W. (2013). *Developmental influences on adult intelligence: The Seattle Longitudinal Study* (2nd ed.). New York, NY: Oxford University Press.
- Schaie, K. W., & Hertzog, C. (1985). Measurement in the psychology of adulthood and aging. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (pp. 61–92). New York: Van Nostrand Reinhold.
- Schwartz, B. A. (2015, Dec 15). American children faced great dangers in the 1930s, none greater than “Little Orphan Annie”. *Smithsonian Magazine*. Retrieved from <https://www.smithsonianmag.com/history/american-children-faced-great-dangers-1930s-none-greater-little-orphan-annie-180957544/>
- Settersten, R. A. (2017). Some things I have learned about aging by studying the life course. *Innovation in Aging*, 1, 1–7. <https://doi.org/10.1093/geron/igx014>.
- Sharf, S. (2014, July 30). The Recession Generation: How millennials are changing money management forever. *Forbes*. From: <https://www.forbes.com/sites/samanthasharf/2014/07/30/the-recession-generation-how-millennials-are-changing-money-management-forever/#774ab150344f>
- Shaw, H. (2013). *Sticking points: How to get 4 generations working together in the 12 places they come apart*. Tyndale House Publishers.
- Smola, K. W., & Sutton, C. D. (2002). Generational differences: Revisiting generational work values for the new millennium. *Journal of Organizational Behavior*, 23, 363–382. <https://doi.org/10.1002/job.147>.
- Srinivasan, V. (2012). Multi generations in the workforce: Building collaboration. *IIMB Management Review*, 24, 48–66. <https://doi.org/10.1016/j.iimb.2012.01.004>.
- Stassen, L., Anseel, F., & Levecque, K. (2016). Generatieverschillen op de werkvloer: ‘What people believe is true is frequently wrong.’ [Generational differences in the workplace: ‘What people believe is true is frequently wrong.’]. *Gedrag en Organisatie*, 29(1), 87–92.
- Staudinger, U. M., & Kunzmann, U. (2005). Positive adult personality development: Adjustment and/or growth? *European Psychologist*, 10, 320–329. <https://doi.org/10.1027/1016-9040.10.4.320>.
- Stein, J. (2013, May 20). Millennials: The me me me generation. *Time*. Retrieved from <https://time.com/247/millennials-the-me-me-me-generation/>
- Strapagiel, L. (2019, Nov 14). Gen Z is calling Gen X the “Karen Generation”. *Buzzfeed News*. Retrieved from <https://www.buzzfeednews.com/article/laurenstrapagiel/gen-z-is-calling-gen-x-the-karen-generation>
- Strauss, W., & Howe, N. (1991). *Generations: The history of America's future, 1584 to 2069*. New York, NY: William Morrow and Company.
- Swinick, C. (2019, December 12). “Ok Boomer”... from internet meme to workplace age discrimination. *JDSupra*. Retrieved from <https://www.jdsupra.com/legalnews/ok-boomer-from-internet-meme-to-99279/>
- The Lancet. (2020). Generation coronavirus? *The Lancet*, 395, 1949. [https://doi.org/10.1016/S0140-6736\(20\)31445-8](https://doi.org/10.1016/S0140-6736(20)31445-8).
- Thompson, D. (2016, Feb 11). America in 1915: Long hours, crowded houses, death by trolley. *The Atlantic*. Retrieved from <https://www.theatlantic.com/business/archive/2016/02/america-in-1915/462360/>
- Thompson, K. (2012, June 16). Generation Obama: Pursuing their dreams through four years of hard times. *The Washington Post*. From: https://www.washingtonpost.com/national/generation-obama-pursuing-their-dreams-through-four-years-of-hard-times/2012/06/16/gJQAQqgthV_story.html
- To, S. M., & Tam, H. L. (2014). Generational differences in work values, perceived job rewards, and job satisfaction of Chinese female migrant workers: Implications for social policy and social services. *Social Indicators Research*, 118, 1315–1332. <https://doi.org/10.1007/s11205-013-0470-0>.
- Tomlinson, J., Baird, M., Berg, P., & Cooper, R. (2018). Flexible careers across the life course: Advancing theory, research and practice. *Human Relations*, 71, 4–22. <https://doi.org/10.1177/0018726717733313>.
- Troll, L. E. (1970). Issues in the study of generations. *Aging and Human Development*, 1, 199–218. <https://doi.org/10.2190/ag.1.3.c>.
- Trzesniewski, K. H., & Donnellan, M. B. (2010). Rethinking “Generation Me”: A study of cohort effects from 1976–2006. *Perspectives on Psychological Science*, 5, 58–75. <https://doi.org/10.1177/1745691609356789>.
- Trzesniewski, K. H., Donnellan, M. B., & Robins, R. W. (2008). Is “Generation Me” really more narcissistic than previous generations? *Journal of Personality*, 76, 903–917. <https://doi.org/10.1111/j.1467-6494.2008.00508.x>.
- Twenge, J. M. (2000). The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952–1993. *Journal of Personality and Social Psychology*, 79, 1007–1021. <https://doi.org/10.1037/0022-3514.79.6.1007>.
- Twenge, J. M. (2006). *Generation Me: Why today's young Americans are more confident, assertive, entitled—and more miserable than ever before*. New York, NY: Free Press.
- Twenge, J. M. (2010). A review of the empirical evidence on generational differences in work attitudes. *Journal of Business and Psychology*, 25, 201–210. <https://doi.org/10.1007/s10869-010-9165-6>.
- Twenge, J. M. (2017). *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy—and completely unprepared for adulthood—and what that means for the rest of us*. New York: Simon and Schuster.
- Twenge, J. M., & Campbell, S. M. (2008). Generational differences in psychological traits and their impact on the workplace. *Journal of Managerial Psychology*, 23, 862–877. <https://doi.org/10.1108/02683940810904367>.
- Twenge, J. M., & Campbell, W. K. (2010). Birth cohort differences in the monitoring the future dataset and elsewhere: Further evidence for generation me—commentary on Trzesniewski & Donnellan (2010). *Perspectives on Psychological Science*, 5, 81–88. <https://doi.org/10.1177/1745691609357015>.
- Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008). Egos inflating over time: A cross-temporal meta-analysis of the Narcissistic Personality Inventory. *Journal of Personality*, 76, 875–902. <https://doi.org/10.1111/j.1467-6494.2008.00507.x>.

- van Dalen, H. P., & Henkens, K. (2020). The COVID-19 pandemic: Lessons for financially fragile and aging societies. *Work, Aging and Retirement*. <https://doi.org/10.1093/workar/waaa011>.
- Van Rossem, A. H. (2019). Generations as social categories: An exploratory cognitive study of generational identity and generational stereotypes in a multigenerational workforce. *Journal of Organizational Behavior*, 40(4), 434–455. <https://doi.org/10.1002/job.2341>.
- Walker, A. (1993). Intergenerational relations and welfare restructuring: The social construction of an intergenerational problem. In V. L. Bengtson & W. A. Achenbaum (Eds.), *The changing contract across generations* (pp. 141–165). New York, NY: Aldine de Gruyter.
- Weiss, D., & Perry, E. L. (2020). Implications of generational and age metastereotypes for older adults at work: The role of agency, stereotype threat, and job search self-efficacy. *Work, Aging and Retirement*, 6(1), 15–27. <https://doi.org/10.1093/workar/waz010>.
- Weiss, D., & Zhang, X. (2020). Multiple sources of aging attitudes: Perceptions of age groups and generations from adolescence to old age across China, Germany, and the United States. *Journal of Cross-Cultural Psychology*, 51, 407–423. <https://doi.org/10.1177/0022022120925904>.
- Wohlwill, J. F. (1970). The age variable in psychological research. *Psychological Review*, 77, 49–64. <https://doi.org/10.1037/h0028600>.
- Wolfe, T. (1976, Aug 23). The “Me” Decade and the third great awakening. *New York Magazine*. Retrieved from <https://nymag.com/news/features/45938/>
- Yang, Y., & Land, K. C. (2006). A mixed models approach to the age-period-cohort analysis of repeated cross-section surveys, with an application to data on trends in verbal test scores. *Sociological Methodology*, 36, 75–97. <https://doi.org/10.1111/j.1467-9531.2006.00175.x>.
- Yang, Y., & Land, K. C. (2013). *Age-period-cohort analysis: New models, methods, and empirical applications*. Boca Raton, FL: CRC Press.
- Yigit, S., & Aksay, K. (2015). A comparison between generation X and generation Y in terms of individual innovativeness behavior: The case of Turkish health professionals. *International Journal of Business Administration*, 6, 106. <https://doi.org/10.5430/ijba.v6n2p106>.
- Zabel, K. L., Biermeier-Hanson, B. B., Baltes, B. B., Early, B. J., & Shepard, A. (2017). Generational differences in work ethic: Fact or fiction? *Journal of Business and Psychology*, 32, 301–315. <https://doi.org/10.1007/s10869-016-9466-5>.
- Zacher, H. (2015a). Successful aging at work. *Work, Aging and Retirement*, 1, 4–25. <https://doi.org/10.1093/workar/wau006>.
- Zacher, H. (2015b). Using lifespan developmental theory and methods as a viable alternative to the study of generational differences at work. *Industrial and Organizational Psychology*, 8, 342–346. <https://doi.org/10.1017/iop.2015.47>.
- Zacher, H., & Froidevaux, A. (2020). Life stage, lifespan, and life course perspectives on vocational behavior and development: A theoretical framework, review, and research agenda. *Journal of Vocational Behavior*.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.