Navigating Generational Differences in Radiology

Arun Krishnaraj, MD, MPH
A. J. Pesch, MD

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From the Department of Radiology and Medical Imaging, University of Virginia, 1215 Lee St, Charlottesville, VA 22902. Received March 4, 2018; revision requested April 17 and received May 14; accepted May 21. For this journal-based SA-CME activity, the authors, editor, and reviewers have disclosed no relevant relationships. Address correspondence to A.K. (e-mail: arunbk@virginia.edu).

See discussion on this article by Sekhar and Tan (pp 1679–1681).

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SA-CME LEARNING OBJECTIVES

After completing this journal-based SA-CME activity, participants will be able to:

■ Describe the classification of generations and their distribution in the current radiology workforce.

■ Discuss how generational differences impact workplace culture, recruitment and retention efforts, and training.

■ Explain how to leverage the opportunity to create a workplace that best adapts to the needs of different generations.

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Generations are cohorts of individuals born in a particular time period who share similar values or value systems owing to historic events that occurred at crucial times during their development. Generations are defined to study how views and values change over time and to assess the differential impact that formative experiences have on groups. Understanding and navigating generational differences will be a critical skill for radiology leaders in the coming decade, as four distinct generations are working side by side for the first time in history. The four generations currently in the workforce are categorized as traditionalists, baby boomers, Generation Xers, and millennials. Beginning in 2016, millennials became the largest generation in the U.S. workforce, surpassing the number of Generation Xers. This major demographic shift will have a profound impact on workplace culture, recruitment efforts, and trainee education. While each generation has similar basic needs, meeting those needs and motivating individuals of different generations are best accomplished using different approaches. Radiology leaders must encourage and support these varied generations to work harmoniously to foster high-performance organizations.

Introduction

Does it bother you to see a radiologist reviewing images while wearing headphones? Your answer may reveal which generation you belong to. Traditionalists and baby boomers may be taken aback at the sight of a radiologist who is seemingly more focused on jamming out to music through a music-streaming application than on the images on the screen. However, to those in Generation X, or Generation Xers, and to millennials, wearing headphones to drown out distractions in the reading room is acceptable, as long as studies are interpreted correctly and in a timely fashion. How the work gets done is typically less of a concern to the younger generations in the workforce.

Appreciating and understanding differences such as those demonstrated in the aforementioned scenario are imperative to promote improved communication across generations. This understanding is arguably more important than ever as four distinct generations are working side by side in the United States for the first time in history (1, 2). In the current era, leaders must encourage and support these varied generations to work harmoniously to foster high-performance organizations.
Generations Defined

Generations are defined as cohorts of individuals born in a particular time period who share similar values or value systems owing to historic events that occurred at crucial times during their development. They are defined to understand how views and values change over time and to assess the differential impact that formative experiences have on certain groups.

While the exact time frames that define generations are subject to debate, we use the ranges determined by Reeves and Oh (3) in this article and define the important historic events for each generation from data culled from a survey produced by the Pew Research Center (4) (Table). The term cuspers refers to those born during the transitional years that bridge generations (5). These individuals may have value systems that include features of overlapping generations. Of note, some researchers have argued that little difference exists between generations and that life stage and age influence belief systems more than belonging to a specific generation (6–8).

The distribution of each generation in the current workforce is depicted in Figure 1 (9). In 2016, millennials became the largest generation in the American workforce, surpassing Generation Xers (9). These trends are being mirrored in the radiology workforce as well (10) (Fig 2). This major demographic shift will have a profound impact on workplace culture, recruitment efforts, and trainee education.

Blending individuals from all four generations by balancing their unique skills and preferences poses challenges for radiology leaders. This article summarizes the existing literature regarding broad assumptions about generational characteristics and differences among baby boomers, Generation Xers, and millennials and highlights opportunities for improving retention, recruitment, and training in radiology, with a greater focus on the latter two generations. The traditionalists’ generation, which is included in the category of late-career radiologists, is beyond the scope of this article and is covered by Bluth et al in another article published in this issue of RadioGraphics (11).

Baby Boomers

The term baby boomer describes those born between 1946 and 1964 and derives from the marked increase in birth rate following the end of World War II before the widespread availability of oral contraception. According to survey data from the Pew Research Center (12), baby boomers list work ethic as the trait most unique to their generation, followed by being respectful and their moral values. Baby boomers, also known as boomers, take pride in their strong work ethic, ability to handle crises, and willingness to take on responsibility, and they value face-to-face communication (13).

The overarching stereotype of members of this generation is that they live to work and are often workaholics. This attitude is thought to derive from being raised in a very competitive generation. The boom in births after World War II led to the overpopulation of hospitals and schools, which the United States was not well equipped to handle (14). Hence, boomers faced competition for scarce resources from birth to their first foray into the job market.

In addition to the competitive environment in which they were born, boomers benefited from a postwar industrial boom in the United States. The U.S. economy rapidly expanded after World War II, and the benefits of this economic expansion spread rapidly to this generation. Unlike the traditionalist generation, boomers began to place a greater value on the self rather than on sacrifice. Households became smaller, and greater attention was lavished on children, who were made to feel more special. Hence, this generation was raised to be idealistic and confident (15).

Impact of Baby Boomers in Radiology

Culture.—Currently, baby boomers likely lead or occupy many leadership positions in radiology departments owing to their seniority; they comprise approximately 47% of attending radiologists in active practice (16). Baby boomer leaders likely take great pride in their positions of authority and may question whether younger generations have the work ethic necessary to take over leadership positions and grow a practice. Moreover, because of this generation’s stereotypical penchant for eternal youth, baby boomer radiologists may delay retirement, further limiting available leadership roles for those in younger generations. Of note, the 2017 American College of Radiology’s workforce survey...
Training.—Baby boomer radiologists have finished their formal training and are often among the senior leadership of their organizations. Continuing education and relaying important information about the organization using traditional group-based meetings will likely continue to be effective for radiologists of this generation (15). Baby boomers should be encouraged to serve as mentors for junior members in a practice. However, they should also be open to mutual mentoring by those in younger generations. While baby boomers can impart lessons based on their experiences, younger generations can be guides for baby boomers, especially with the use of

Recruitment and Retention.—The recruitment and retention of baby boomer team members reflect the core values of this generation. Given their strong work ethic and belief in their organization’s mission, baby boomers will value acknowledgment of their ideas and suggestions and will seek to be contributing members of the team (15). They pursue personal fulfillment through their jobs as they live to work. They believe that their experience should justify their positions as leaders, and they appreciate recognition for their accomplishments.

Radiology leaders may benefit from providing these workers with opportunities to represent the institution, as they are typically proud to speak on behalf of an organization, given their tendency toward loyalty. They also excel when given clear and concise job descriptions. In terms of feedback, annual reviews and quarterly one-on-one meetings to assess performance are seen as acceptable in both format and frequency (15).

Table: Generations Categorized by Year of Birth and Defining Historic Events

<table>
<thead>
<tr>
<th>Generation</th>
<th>Other Names</th>
<th>Years of Birth</th>
<th>Defining Historic Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditionalists</td>
<td>Greatest generation, silent generation, GI generation</td>
<td>Born between 1925 and 1945</td>
<td>World War II, the Great Depression</td>
</tr>
<tr>
<td>Baby boomers</td>
<td>Me generation</td>
<td>Born between 1946 and 1964</td>
<td>Civil rights movement, Vietnam War, assassination of President Kennedy, the sexual revolution, first generation to grow up with television</td>
</tr>
<tr>
<td>Generation X</td>
<td>Xers, post-boomers</td>
<td>Born between 1965 and 1980</td>
<td>Launch of MTV, Gulf War, latchkey child phenomenon, Challenger disaster, end of Cold War</td>
</tr>
<tr>
<td>Millennials</td>
<td>Generation Y, echo boomers, generation next</td>
<td>Born between 1981 and 2000</td>
<td>September 11, election of President Obama, technological revolution, same-sex marriage recognized by law in the United States</td>
</tr>
</tbody>
</table>

Sources.—References 3 and 4.
Note.—GI = government issue, MTV = Music Television (Viacom Media Networks, New York, NY).

(10) indicated that the number of job openings in 2017 was expected to be greater than in prior years, but those openings do not necessarily indicate available leadership positions or opportunities to grow into leadership positions quickly, something both Generation Xers and millennials desire (15).

The continued increasing number of women in the overall workforce and in the radiology workforce has resulted in an altered demographic landscape than that which was present during the boomers’ peak career years (10). Radiology leaders may benefit from establishing pathways to support women in leadership roles to respond to this shift in demographics (17).
technology. This synergistic relationship can be mutually beneficial to the organization and the individual (18).

Generation X

The term Generation X takes its origin from a 1991 novel titled *Generation X: Tales for an Accelerated Culture*, by Douglas Coupland (19). According to data from a Pew Research Center study (12), Generation Xers, individuals born between 1965 and 1980, list technology use as the trait most unique to their generation, followed by work ethic. This generation is less trusting of traditional hierarchy and established norms and is more willing to blaze new paths compared with those of the baby boomer generation.

Because of high divorce rates among the parents of those in this generation and the destabilizing effect it had during their formative years, Generation Xers place a great focus on family life and vocational activities with friends (15). Generation Xers value work-life balance and see work as a means to live, a perspective in contrast to that of most baby boomers in regard to their occupations.

In addition, fathers in Generation X are playing greater roles in child rearing than those in prior generations, as they seek greater stability for their families (15). Radiology leaders should be aware that the greater desire of Generation Xers to actively participate in parental roles may conflict with a baby boomer leader’s desire to have employees stay at work longer to participate in nonclinical activities (20).

Impact of Generation X in Radiology

Culture.—Members of Generation X make up the majority of early and midcareer radiologists and overall represent 44% of those in active practice (16). Baby boomer radiologists may perceive this generation’s desire for a greater work-life balance as a sign of disengagement owing to an unwillingness to work an extra weekend of call or serve on overnight shifts as they had done during their careers. However, Generation Xers view themselves as realists, having been shaped by events and factors such as the Watergate scandal, the rise in divorce rates, and less stable households.

As noted previously, they value work-life balance and are unwilling to compromise family time for additional work. However, while at work, they are productive, prefer to be independent, and are results driven rather than process driven (15). Radiologists in this generation have witnessed both a boom and a bust in radiology with regard to reimbursement (21) and are likely cautiously optimistic about its future, which may further influence their desire for a greater balance between work and life.

A major demographic trend impacting this generation has been a marked rise in the number of women who have entered the workplace. Women make up 21.5% of radiologists, the largest percentage in the history of the profession (10). The percentage of women radiologists is also more skewed to the younger population, with female radiologists ages 35–45 comprising 27% of total radiologists in this subpopulation, the highest in any age group (10). In addition to the rise in the number of female workers, women now desire more shared responsibility for traditional household duties and child rearing (22). Because of this, Generation Xers seek more predictable work hours and shifts where they can work more efficiently, avoiding long days at the office.

As it applies to radiology, this generation will seek greater flexibility in how work hours and work locations are defined. Understanding the values that shape this generation should prompt radiology leaders to offer more independence to these employees, allowing them to work from home or to work shifts that do not necessarily fit the typical 8:00 AM to 5:00 PM schedule common in most hospitals and group practices.

Generation Xers also consider diversity crucial to satisfaction in the workplace environment. Hence it is important to ensure that women and men who want more flexible work hours are welcomed in the radiology workplace (16). In addition, practices will need to have clear maternity and paternity policies to accommodate this
Recruitment and Retention.—The recruitment and retention efforts used for Generation X radiologists reflect the core values of this generation. This first generation of emerging digital natives seeks to maximize efficiency through the use of technology. Unlike prior generations who saw the workplace as the only environment where work could be accomplished, Generation Xers, especially in radiology, know that work can be accomplished in multiple settings. Their fiercely independent nature also runs counter to the traditional baby boomer work structure in the reading room (15). To keep members of this group engaged and to ensure their contribution to the radiology group, radiology leaders may benefit from allowing Generation Xers the opportunity to help define expectations and by being flexible regarding the setting and work hours necessary to meet those expectations.

Previous studies have highlighted the lack of flexible work hours as a reason fewer women enter the field of radiology (24,25). If women are not encouraged and supported to pursue radiology, a valuable cohort of female radiology mentors will be lost. A decrease in the number of female medical students choosing radiology will lead to a vicious cycle with a resultant lack of female radiology leaders to serve as mentors and role models, something that is critical to ensure that women are proportionally represented in the field (26).

Radiology leaders also need to ensure that additional work responsibilities do not bleed into nonwork time, as this may cause dissatisfaction among Generation X employees (15). However, this must be balanced against the importance of radiologist participation in nonclinical activities, such as visible representation on hospital committees to lobby for radiology needs. As the oft-quoted adage warns, “If you are not at the table, you are probably on the menu.”

In terms of feedback, those in Generation X value real-time feedback so that they can improve their current performance, rather than receiving a typical annual review. They believe that their merit, not their seniority, should be respected and prefer a flatter hierarchical structure (15).

Training.—Generation X radiologists are either early-career radiologists or those entering the middle of their careers and want to continue to increase their skill sets, develop and hone their expertise, and grow into leadership positions within an organization. To promote the growth of Generation Xers, it is necessary for radiology leaders to pair them with effective mentors and create peer networks of mentors. As noted previously, mutual mentoring must occur for these types of relationships to be effective. Realistic expectations must be set and discussed with members of this generation with regard to promotion, as they are less likely to wait their turn and may choose to seek employment elsewhere if they feel they are being undervalued (15). Open discussions regarding opportunities to continue to grow within the organization with an associated timeline may help mitigate the propensity of this generation to seek more rewarding opportunities elsewhere.

Millennials

The term *millennial* was coined by William Strauss and Neil Howe (27) to describe those who would enter adulthood at the dawn of the new millennium. Millennials, those born between 1981 and 2000, represent the newest generation to enter the workforce and as of 2016 are now the largest cohort in the workforce, in addition to being the most diverse and most educated (12).

How millennials view and navigate the workplace has been shaped by their upbringing, which often included heavy parental involvement. The parents of millennials have been termed *helicopter parents* because they hovered above their children, organizing, dictating, and helping resolve conflicts in all aspects of their child’s life. This parental overinvolvement and the culture of granting participation trophies (the notion of awarding a trophy or praise to a child just for participating in an activity) has led some observers to cite narcissism and a sense of entitlement as defining traits of this generation (28). Moreover, this is the first generation who had been allowed to disagree with their parents, who did not dictate orders to their children; rather, millennials and their parents had an open dialogue (15).

Millennials have identified technology use as the trait most unique to their generation (12). While this was also the most common answer given by members of Generation X in the same survey, millennials identified technology as their key defining trait twice as often (24% for millennials vs 12% for Generation Xers). Millennials have grown up in a world immersed in technology and are inextricably intertwined with their technologic devices. By leveraging available technology, millennials have the widest social network of any preceding generation (12).

In addition, because they were raised in the consumer age, millennials have always had access to numerous choices and the ability to easily compare items to choose what best suits their needs. The impact of heavy parental involvement,
lack of a hierarchal family structure, their widespread use of technology, and broad consumer choice have shaped the way millennials interact in the workplace.

Impact of Millennials in Radiology

Culture.—Millennials primarily comprise the trainee population in radiology, as well as the current medical student population. While millennials have yet to exert their full impact as attendings in a practice, responding to their unique needs and desires is critical, as this emerging generation will come to dominate the workplace soon.

Millennials put a higher premium on meaningful work and personal development than on monetary compensation (29,30). One way that radiology leaders can respond to this desire is by stressing the meaningful contributions that radiologists make in affecting patients across the continuum of care, from population health screenings to therapeutic interventions. These types of messages will likely resonate with members of this generation and keep them more engaged, potentially leading to greater contributions.

Another common desire of millennials is to work in teams. Opportunities for collaborative work, such as participating on tumor boards and in multidisciplinary conferences, should be encouraged, as well as opportunities to participate in service activities, which tap into millennials’ inherent social responsibility (31). Providing these types of opportunities can help ensure the job satisfaction of this vital cohort.

Similar to Generation Xers, millennials have seen how technology obviates the typical office setting as the only place where work can be completed. They seek what is known as work-life integration (32). Listening to music through headphones while at work or reading studies while at the pool may be considered acceptable by this generation. Their general belief is that as long as the work gets done well, it should not matter where the work is accomplished (15).

Radiology leaders could respond to this desire by creating more nontraditional work options, such as off-site reading and job sharing (30). While accommodating the nontraditional work preferences of millennials is important, this must be balanced against the goals of the profession, which aims to be patient centered, readily available, and aligned with the needs of health systems to survive and thrive in the rapidly changing health care marketplace (33). Leveraging the social media savvy of millennials could be one way that radiology leaders facilitate participation of this cohort in nonclinical activities such as marketing and patient engagement (34).

Recruitment and Retention.—Because of heavy parental involvement and frequent open dialogue with their parents, millennials expect frequent feedback and heavy involvement from their supervisors. Whether it is through playing video games, tracking a pizza order online, or participating in adaptive testing that displays their score at the end of the examination, millennials have grown up in a world where immediate feedback is the norm. To millennials, a lack of feedback is often interpreted negatively, hence every effort to provide feedback should be sought for this cohort (31).

However, the lengthy annual-review method of feedback expected by baby boomers is not necessary for millennials, who respond better to real-time feedback in the form of a text or short e-mail recognizing a job well done (15). Lack of acknowledgment is also viewed negatively by this generation and is cited as a reason for job dissatisfaction or terminating employment (35). Assigning a mentor and creating a peer network of mentors could also be used to facilitate more frequent feedback.

Millennials have always had an open dialogue with their parents, which translates into freely sharing their opinion even when they are relatively junior members in the workplace. This contrasts starkly with the position of baby boomers and traditionalists, who spoke up only when asked and respected the traditional top-down hierarchy of an organization. Radiology leaders may benefit from creating environments where the ideas of even junior employees are recognized and discussed, even if not implemented (15). Despite these efforts, it should be noted that millennials switch jobs twice as often as Generation Xers, and up to 90% of millennials do not expect to stay in a job for more than 3 years (29).

Training.—With regard to education, millennials prefer the same type of on-demand access and immersive interactive format that they have grown accustomed to while interacting online and playing video games. The traditional didactic lecture format is not as effective in reaching this generation and must be updated to meet the needs of these digital natives (36). Offering case-based learning, providing access to online repositories of focused educational resources, and using audience-response systems accessed through smartphones or tablets allow millennial learners to access their knowledge base in real time. These techniques may also have the added benefit of increasing the retention rate for the information being presented (37).

Another recent trend in education that may have value in radiology is pursuing a flipped classroom, in which learners review core content, typically online, before attending a session where that knowledge must be applied. For example,
this learner-centered model allows an attending radiologist to spend more time during a noon conference working through a complicated rectal cancer case with a resident without having to spend the majority of the session reviewing basic staging criteria covered in a previously recorded lecture (38).

In addition to adapting education delivery methods to meet the needs of millennials, it is imperative that radiology trainees be taught non-interpretable skills in quality, efficiency, and safety that will prepare them to be effective proponents of emerging value-driven care models (39).

**Conclusion**

Balancing the needs, understanding the motivations, and blending the desires of four distinct generations are challenges for radiology leaders in the coming decades. To blend these generations into harmonious teams, it will be necessary for radiology leaders to evaluate their impact on the culture of their organization, understand how that culture affects recruitment and retention, and continue to evolve and adapt training programs for current and future generations.

**References**


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