

# Generation Z in Plastic Surgery: Challenges, Solutions and New Horizons – A European and transatlantic overview

## „Generation Z“ in der Plastischen Chirurgie: Herausforderungen, Strategien und Zukunftsperspektiven – Ein europäischer und transatlantischer Überblick



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Generation Z, Plastic Surgery, digital innovation, work-life balance, surgical education, generational shift, healthcare systems

### Schlüsselwörter

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### ABSTRACT

**Introduction** The entrance of Generation Z (born 1997–2012) into professional life, including the practice of medicine, marks a transformational shift in priorities and values. This generation, shaped by digital immersion and a strong focus on work-life balance, is redefining the landscape of Plastic Surgery. Their preferences for inclusivity, innovation, and structured working hours challenge traditional models of mentorship, patient care, and surgical training. The aim of this survey was to explore the impact of Generation Z on the field of Plastic Surgery through insights offered by leaders of major Plastic Surgery societies in Europe and the United States, who together provide a comprehensive perspective on generational change and its implications for clinical practice, education, and healthcare systems in Plastic Surgery.

**Methods** In October 2024 eight leaders of national Plastic Surgery societies and associations were invited to complete a structured questionnaire with five open-ended questions. They provided detailed responses on challenges, opportunities, and structural changes needed to address Generation Z's influence.

**Results** Key findings highlight a generational shift in the approach to professional life, with an emphasis on digital innovation, work-life balance, and the interaction with social media. Respondents noted an increased interest in aesthetic over reconstructive surgery and a preference for private practice among younger surgeons, raising concerns about workforce shortages in public healthcare. Advances in digital

learning and simulation-based training were identified as opportunities to facilitate medical education. However, the ethical challenges of misinformation on social media and a decline in hierarchical mentorship were emphasized as critical concerns. Despite generational tensions, the integration of Generation Z's strengths in technology and advocacy for systemic reform holds promise for addressing burnout and enhancing healthcare delivery.

**Conclusion** The arrival of Generation Z in Plastic Surgery represents a possible pivotal moment to reimagine traditional models of surgical education, patient care, and professional priorities. Collaboration between generations and proactive adaptation to these changes is an imperative to ensure a dynamic, inclusive, and sustainable future for the specialty.

## ZUSAMMENFASSUNG

**Einleitung** Die Generation Z (geboren zwischen 1997–2012) bringt durch ihre Werte und Prioritäten, die von zunehmender Digitalisierung und einem starken Fokus auf Work-Life-Balance geprägt sind, neue Perspektiven in die Plastische Chirurgie. Ihr Streben nach Inklusivität, Innovation und klar geregelten Arbeitszeiten stellt traditionelle Ansätze in der Patientenversorgung, Arbeitsumfeld und Facharztausbildung vor Herausforderungen. Ziel der vorliegenden Arbeit ist es, die Auswirkungen des gesellschaftlichen Wandels auf die ärztlichen Ressourcen der Plastischen Chirurgie zu bewerten und internationale Lösungsansätze aufzuzeigen. Hierfür wurden die Präsidenten der größten nationalen Gesellschaften für Plastische Chirurgie in Europa und den USA befragt und die Ergebnisse zusammengefasst.

**Methoden** Im Oktober 2024 wurden acht führende Vertreter nationaler plastisch-chirurgischer Gesellschaften eingeladen,

einen strukturierten Fragebogen mit fünf offenen Fragen zu beantworten. Die Befragten lieferten detaillierte Einblicke in die Herausforderungen, Chancen und notwendigen strukturellen Anpassungen, um den Generationenwandel in der Plastische Chirurgie aktiv zu gestalten.

**Ergebnisse** Die Befragung zeigte eine deutliche Veränderung in der beruflichen Herangehensweise, geprägt von digitaler Innovation, einem starken Einfluss sozialer Medien und der Priorisierung von Work-Life-Balance. Von vielen wurde ein gesteigertes Interesse an Ästhetischer Chirurgie sowie die Präferenz für eine frühe Niederlassung beschrieben mit einem potentiellen Fachkräftemangel im öffentlichen Gesundheitswesen. Fortschritte in der digitalen Lehre und simulationsbasierten Trainings wurden als zentrale Chancen identifiziert, um die medizinische Ausbildung zu verbessern. Gleichzeitig wurden Fehlinformationen in sozialen Medien und der Rückgang traditioneller hierarchischer Strukturen als kritische Herausforderungen festgestellt. Neben diesen Herausforderungen bietet die Integration der digitalen Kompetenzen und Reformbestrebungen der Generation Z auch Chancen, die Gesundheitsversorgung nachhaltig zu verbessern.

**Schlussfolgerung** Der Eintritt der Generation Z ins Berufsleben könnte auch in der Plastischen Chirurgie erhebliche Veränderungen der Organisationsstrukturen notwendig machen. Traditionelle Modelle der chirurgischen Ausbildung, Patientenversorgung, und Arbeitsstrukturen werden überdacht und angepasst werden müssen. Eine enge Zusammenarbeit zwischen den Generationen und die Anpassung der Organisationsstrukturen an die Veränderungen werden notwendig werden, um eine innovative, dynamische und nachhaltige Zukunft für die Plastische Chirurgie zu gewährleisten.

## Introduction

What happens when the surgeons of tomorrow prioritize work-life balance, digital innovation, and inclusivity over the long-standing traditions of undefined working hours and hierarchical mentorship? The arrival of Generation Z in working-life and specially in the field of medicine raises this question, making a significant shift in how medicine is practiced, taught, and perceived [1, 2].

Plastic and Reconstructive Surgery is a dynamic and continuously evolving field, which stands at the intersection point of art, science, and technology, as well as medical innovation and creativity. As a surgical specialty defined by its potential for innovation and self-expression, it offers wide opportunities for creativity, independence, and personal growth. These qualities make it particularly attractive to Generation Z but also susceptible to transformation among the Generation Z. This incoming challenges to patient care, resident training and research need to be addressed.

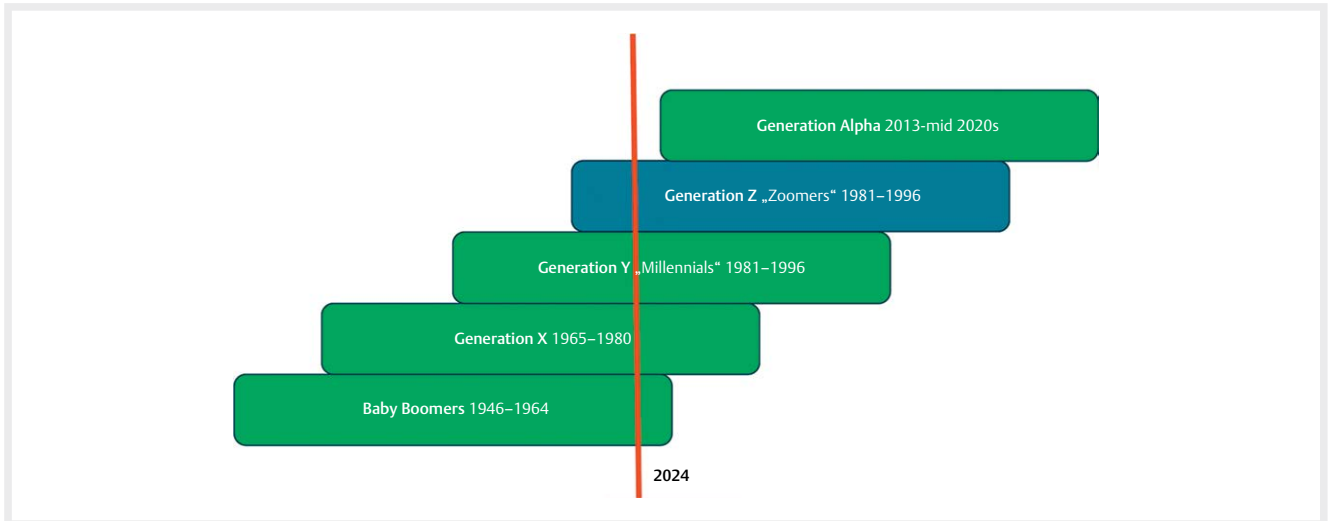
Generation Z, often referred to as “Zoomers,” is the demographic cohort succeeding Millennials (Generation Y) and preceding Generation Alpha, which has not yet entered adulthood or the workforce (► **Fig. 1**). Born between the mid-to-late 1990s and early

2010s, Generation Z represents the generation currently transitioning into professional life, including the completion of medical studies and entry into the medical workforce. This contrasts with Millennials, who are in the mid-stage of their careers, and Generation X, many of whom are nearing retirement [3].

Generation Z is the first cohort to grow up entirely immersed in the digital age, with unprecedented access to technology and information from an early age, and are also called as “digital natives” [4]. This brings considerable changes, challenges and opportunities to Plastic Surgery. However, Gen Z are not necessarily digitally literate and may struggle in a digital workplace. Moreover, the negative effects of screen time are most pronounced in adolescents, as compared to younger children [5].

On the other hand, they share very different values prioritizing mental health and personal time as much as professional excellence, but without sacrificing their careers, as well as in addition embracing integration, diversity and acceptance [6–8].

This generational shift raises important questions for the future of Plastic Surgery: How can we balance Generation Z's preference for structured working hours accommodate the demands of time-in-



► **Fig.1** Generational distribution in 2024 regarding working life. Comparison of the working lifetimes of different generational cohorts. Each generation is represented by overlapping bars, with a red vertical line marking the year 2024, indicating their past, present, and future working periods. The chart highlights how workforce participation spans across multiple generations over time.

► **Table 1** Summary of the Leaders of National Societies of Plastic Surgery Participating in the Survey. Demographic data were obtained from the ESPRAS Survey [9].

Country	National Society	Leader	Total Members of the society	Members of the society/ Million habitants
Finland	Finnish Association of Plastic, Reconstructive, and Aesthetic Surgeons (FAPRAS)	Ilkka Kaartinen (Past President)	160	26.36 members/million inhabitants
France	Société Française de Chirurgie Plastique, Reconstructrice et Esthétique (SOFCPRE)	Jacques Saboye (Past President)	400	5.2 members/million inhabitants
Germany	Deutsche Gesellschaft der Plastischen, Rekonstruktiven und Ästhetischen Chirurgen (DGPRÄC)	Marcus Lehnhardt (President)	2,119	19.6 members/million inhabitants
Italy	Società Italiana di Chirurgia Plastica Ricostruttiva ed Estetica (SICPRE)	Franco Bassetto (Incoming President)	1,300	20.0 members/million inhabitants
Spain	Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE)	Jaume Masia (Past President)	1,000	21.09 members/million inhabitants
Türkiye	Türk Plastik Rekonstrüktif ve Estetik Cerrahi Derneği (TPRECD)	Cenk Demirdöver (President)	1,030	8.3 members/million inhabitants
United Kingdom	British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS)	Paul McArthur (Incoming President)	1,262 (550 consultants)	8.54 members/million inhabitants
United States of America	American Society of Plastic Surgeons(ASPS)	Gregory R.D. Evans (Past President)	Over 8,000	20.9 members/million inhabitants

tensive reconstructive procedures? Will Surgery and especially Plastic Surgery suffer from the arrival of this generation? In an changing society with a reduced working population, how can we sustain 24-hour high-quality patient care while respecting surgeons' work-life balance? Can virtual learning effectively replace the interpersonal mentorship that has for so long been core to surgical education? How will the domination of social media redefine patient care and the social perception of surgery? And how will technology, robotics,

artificial intelligence and new work philosophies reshape public healthcare systems – will Generation Z ultimately improve them?

The aim of this paper is to present the personal perspectives from leaders of national Plastic Surgery societies in Europe and the United States, which together provide a comprehensive transatlantic overview of Western societies. These insights are intended to contribute to ongoing discussions, inform policy-making, and guide the development of strategies for addressing generational changes in Plastic Surgery.

## Material and Methods

To explore the impact of Generation Z as the new generation of Plastic Surgeons, insights were obtained from eight past, present, and incoming leaders or presidents of large national societies for Plastic Surgery in Europe and in the United States. These leaders were invited to share their perspectives through a structured questionnaire comprising five open-ended questions. The questionnaire was distributed in October 2024. Participants were invited to choose one or more of the questions to provide a comprehensive overview of the current challenges and opportunities in their respective national societies and countries regarding Gen Z. Each respondent was given a maximum of two pages to share their responses. The results focus on the original responses, which were preserved to reflect the authentic perspectives and views of the leaders. Further, descriptive statistics were done.

The five questions:

1. What are the main challenges from your perspective?
2. Is the new relevance of work-life balance having any impact upon training in Plastic Surgery in your country?
3. Have you identified any developments resulting from the influence of social media and are the digital skills of Generation Z changing practice?
4. What role does the generational shift to Generation Z in Plastic Surgery play in your national society?
5. What structural changes will be necessary in the future?

## Results

Eight leaders were invited to provide their opinions and assessments on the impact of the generational shift in Plastic Surgery

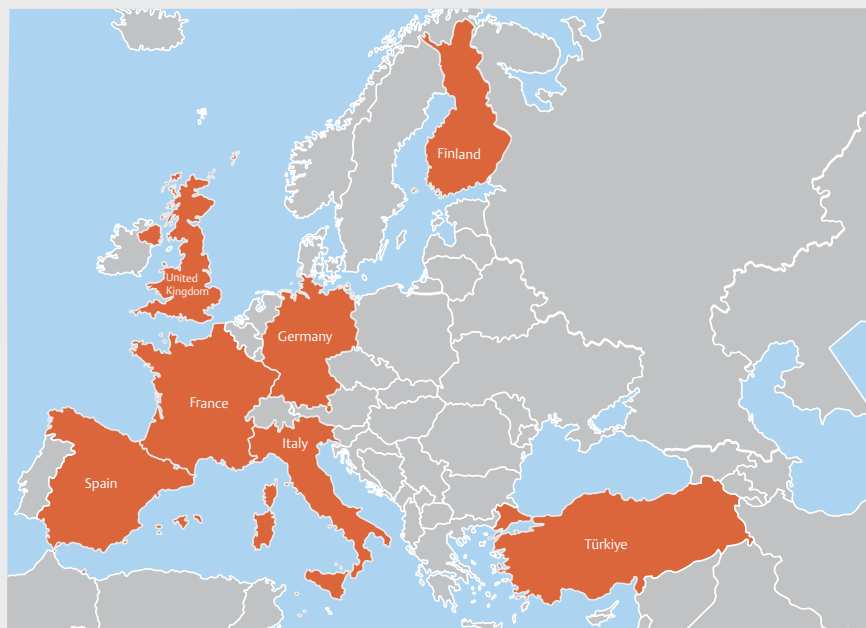
with the arrival of Generation Z (► **Table 1**). Seven of the respondents are leaders or past leaders of national societies that are members of the European Society of Plastic, Reconstructive, and Aesthetic Surgery (ESPRAS), while the eighth represents the American Society of Plastic Surgeons (ASPS) as past president, enabling a comparative transatlantic analysis (► **Table 1**, ► **Fig. 2**).

According to the ESPRAS Survey [9] the participating national societies represent some of the largest and most influential Plastic Surgery organizations in Europe. The German Society of Plastic, Reconstructive, and Aesthetic Surgeons (DGPRÄC) is the largest, with 2,119 members, followed by the Italian Society of Plastic, Reconstructive, and Aesthetic Surgery (SICPRE) with 1,300 members, the British Association of Plastic, Reconstructive, and Aesthetic Surgeons (BAPRAS) with 1,262 members, the Turkish Society of Plastic, Reconstructive, and Aesthetic Surgeons (TPRECD) with 1,030 members and the Spanish Society of Plastic, Reconstructive, and Aesthetic Surgery (SECPRE) with 1,000 members. The Finnish Society of Plastic Surgeons (FAPRAS) is the smallest, with 160 members, but it boasts the highest density of members per million inhabitants (26.36 members/million), highlighting its robust representation relative to Finland's population size.

All respondents are men and currently hold, have held or will hold leadership positions in their national societies. Their professional focus represents the full spectrum of Plastic Surgery.

### Finland (Ilkka Kartinen, past president to FAPRAS)

Generation Z refers to people born between 1997–2012. This means that the oldest “Zoomers” are now 27 years of age and have



► **Fig. 2** Countries represented by leaders of national Plastic Surgery societies across Europe, who contributed their perspectives to this study are highlighted in red.

just recently started to enter the Plastic Surgery training. Therefore, some parts of the following thoughts are based on experience with the previous age groups who have already passed through the residency, as there are certain differences to be noticed already, compared to the previous generations.

### **What role does the generational shift to Generation Z in Plastic Surgery play in your national society?**

In Finland, the residency programs are run by the five medical universities. Since 2020, the quota of residency positions in medical specialities in each University is allocated by the Ministry of Health. The number of open residency positions annually is based on the expected need for new consultants to replace retired physicians. Based on this data, there is huge variation in the level of interest in different specialities among Generation Z physicians. There are fields that have significantly fewer applicants than there are positions available: For example, certain specialities in internal medicine. On the other hand, some fields have many more applicants than there are positions, and among them is Plastic Surgery.

For many years, Plastic Surgery has been one of the most sought-after specialities. However, we are already seeing less interest in some other surgical specialities. Unfortunately, there are no surveys done among medical students or young physicians on their motivations when choosing a specialty, but talking with medical students one gets a sense that Plastic Surgery might be considered as an “easier” and “less heavy” surgical speciality, mostly performed inside office hours. This appears to be the case among current trainees as well – there is perhaps less interest in demanding reconstructive surgery and microsurgery compared to previous generations.

For our society, there is no expectation to have a shortage of residents in the future. However, choosing residents that can be expected to have an interest in demanding reconstructive surgery in University Hospitals, years of on call duty etc, is a cause of concern. On the other hand, there seems to be more interest to shift to private practice early on, and growing competition between private practitioners can be expected.

### **What are the main challenges?**

One important challenge in recent years is finding people to work in smaller Central hospitals (especially in rural areas). The University hospitals have been able to fill the positions quite well so far, but some smaller hospitals are dealing with lack of work force and must rely on outside consultants. This is likely to get worse and a part of a larger phenomenon where young professionals are moving more and more to the largest cities. For the university hospitals, the challenge seems to be keeping the consultants from shifting to private practice. To become a fully competent microsurgeon, it often takes years after the residency, and therefore the hospitals can't afford to lose these highly professional individuals.

### **What role does the new relevance of work-life balance in coping with everyday life play for Plastic Surgery?**

Anxiety, depression and burnout are a rising concern among young adults. Some younger doctors have even started to request a part time work even during residency. Also, workdays are expected to

finish inside office hours. This causes challenges especially in reconstructive microsurgery. Operations in this field often last beyond normal working hours. Therefore, getting exposure to this work requires the residents to stay until the operations finish which, unfortunately less and less residents are willing to do. Unfortunately, it seems that the general feeling among reconstructive microsurgeons in Finland is that less and less residents are staying after office hours. This leads to widening and flattening of the learning curve in microsurgery.

### **What consequences do you expect for continuing education in Plastic Surgery?**

The growing imbalance between the interest in aesthetic surgery compared to reconstructive surgery creates challenges. This can be observed in congresses that have parallel sessions – one can expect a full lecture hall when aesthetic topics are presented, and meanwhile little interest in reconstructive topics. Yet, most work in the field of Plastic Surgery in Finland is reconstructive surgery. Furthermore, the operations are getting more demanding, reconstructive procedures have been getting more refined, supermicrosurgery has become mainstream and patients are getting older and sicker. Therefore, higher competency in reconstructive Plastic Surgery is required.

Shifting to private practice early on is often a poor choice, since opportunities for continuing education for aesthetic surgery in Finland are poor. There aren't many learning positions available, because of the competition among private practitioners. Mostly, one is responsible for their own education. Fellowships are expensive to arrange and therefore tend to be short. For the colleagues working in university hospitals, support from the senior consultants is always available, and congresses are at least somewhat a part of the curriculum. However, money for education is unfortunately being cut because of budget concerns, and therefore opportunities to attend congresses are getting more limited.

### **Social media**

Obviously, there are many professionals from previous generations that have adopted social media for their main marketing platform and have built a somewhat strong following on their accounts. However, the Gen Z has been exposed to social media for their entire life, and thus we are likely to see an influx in social media presence among Plastic Surgeons of the Gen Z. There are some concerns about this. Firstly, there is public interest in aesthetic surgery, and we are already seeing a lot of content put out by people without Plastic Surgery training, that can be misleading, false, and in some cases, harmful to the patients. There is no peer review in social media, and very little can be done to correct false information. The terms cosmetic surgery, aesthetic surgery and aesthetic medicine are getting mixed up, blurring the lines of Plastic Surgery as a speciality. Also, social media creates a false impression of our speciality, since there is almost no content anywhere regarding reconstructive surgery. It comes as a surprise to even medical students, that the bulk of work among Plastic Surgery is not aesthetic treatments. Here might be a silver lining, when some of the Gen Z residents are already publishing interesting and accurate content on their specialization.

## France (Jacques Saboye, past president to SOFCPRE)

Born between 1998 and 2012, this generation grew up when the Internet and social media already existed. They have therefore been immersed in a culture of social networking, openness to the world and free access to knowledge. This is not the case for the previous generation, the so-called millennials, who discovered the internet in their teenage years.

For Gen Z, this openness to the world has enabled rapid, immediate and widespread access to scientific knowledge, unprecedented in the history of humanity. It has saved a considerable amount of time in the acquisition of knowledge. This access has also enabled many human encounters, admittedly more virtual than real, but it has nevertheless broken down many barriers in human relations. It seems that the lack of virtual boundaries online where you can be friends with everyone whatever the status or the background has caught up the reality where the boundaries can be crossed despite the hierarchy in place at the hospital.

Today, Gen Z are old enough to be medical students or interns; they passed the main competitive examinations and are arriving in hospitals. We can see the influence of online education on the students' behavior.

The academic hierarchy of some, the companionship of others, learning from the masters or from books - all these are being called into question by this generation. The university library or the department staff are less helpful than pubmed, Wikipedia or other tutorials or internet links.

The levelling of social relations means that this generation does not use the traditional codes in hospital's departments. For them, the notion of 'boss' is gradually disappearing. Some current heads of department complain about this, especially as they were trained to respect the all-powerful boss. Students, interns, assistants, the head of department - everyone is treated the same way, and the hospital hierarchy is disappearing.

Companionship, the basis of training for surgeons, with the oldest guiding the youngest, is also disappearing because virtual reality and simulation allow us to learn faster and probably better, with less risk. The flight simulator used by pilots will definitely have its equivalent for these young surgeons.

The passion for books is disappearing in favour of the laptop screen. The previous generation had to make the effort to seek out and buy the books that would shape their lives as doctors, and they were called by their author's name: the Perlmutter, the Rouviere or the Netter. The library was the definitive pride of the doctor throughout his career, present behind his desk, affirming to the rest of the world the practitioner's level of scientific knowledge.

Gen Z has no interest in investing financially in hardcover books. Knowledge is just a few clicks away, it's gigantic, limitless, accessible in a few minutes on the basis of 'key words'...

We can see that all this time saved in learning will also have an impact on the lives of these young doctors. Hours are no longer wasted going to the university library to search indexes and thesauri, only to find a few articles after an afternoon's work. Research used to take an incredible amount of time; that's no longer the case. This generation does not want to invest this time in medicine,

but in their personal lives. They will devote more of their free time to other activities such as sport, leisure or family.

The previous generation, whose only investment was medicine, for whom medicine was everything, sacrificing family, leisure and friends in the process, is now finding it difficult to cope with this phenomenon. This new generation is just as committed to their profession as doctors on a daily basis, but working hours are defined. If there is a staff shortage or work overload, they see it as a structural issue and not a « me » problem: it's up to the system to solve the issue, not them.

There's a real generational conflict here. Will this generation become involved in time-consuming associative and trade union activities, with no 'return on investment' for the benefit of the collective? We can't say for sure, but face-to-face meetings and congresses in different locations in France and abroad are not at all suited for them, and the travel they will have to do is not in line with their personal aspirations or their more ecological vision of society.

So, will they be better doctors? Possibly, because they will have a better balance between their personal and professional lives. The time they devote to their family, leisure activities and sport

There's no reason why they should be any less committed to their patients. They keep their personal and professional lives completely separate. This does not prevent them from having a passion for their profession as doctors, but it is no longer exclusive. For Gen Z, life is not just about work.

## Germany (Marcus Lehnardt, president to DGPRÄC), Yonca Steubing

Generation Z, born approximately between 1997 and 2012, is increasingly entering the workforce, bringing new perspectives and specific expectations to professional life. Their values and approaches to work differ markedly from those of other employees, presenting both opportunities and challenges in collaborative clinical settings. This contribution examines the distinct characteristics of Generation Z from the German point of view, potential points of tension in the workplace, and strategies to foster productive collaboration in a modern clinic.

### Work Ethics and Values of Generation Z

Shaped by a world dominated digital technologies and heightened social awareness, Generation Z brings unique priorities and motivations to their professional engagements: Proficiency in Technology: For Generation Z, the use of digital tools and modern technologies is a fundamental aspect of their professional environment. They expect work processes to be streamlined and embrace innovations such as electronic documentation systems, virtual reality-based training, and artificial intelligence-supported applications. Emphasis on Work-Life Balance: Generation Z places significant importance on maintaining a clear boundary between work and personal life. They are generally inclined toward structured working hours and demonstrate reluctance to engage in overtime unless absolutely necessary. Orientation Toward Purpose: Members of Generation Z seek roles that provide a sense of meaning and contribution. In Plastic Surgery, this often translates into a keen interest in reconstructive procedures, socially impactful initiatives, and efforts to enhance the overall patient experience.

## Challenges in an Intergenerational Workplace

The divergence in values and work approaches between Generation Z and other employee groups can lead to challenges, particularly in the following areas: Generation Z favors concise, informal, and technologically facilitated communication methods, which may contrast with the more traditional or formal communication practices prevalent among their colleagues. These differences can result in misunderstandings or inefficiencies in coordination.

Younger employees tend to prioritize efficiency and clearly defined structures. In contrast, others may place greater value on flexibility and adaptive problem-solving. This divergence can lead to disagreements about workflows and priorities. Generation Z often exhibits a preference for collaborative work environments with flat hierarchical structures. This perspective can lead to friction when it challenges established systems or traditional decision-making processes.

## Strategies and Perspectives for Clinics

Integrating Generation Z into clinical workflows effectively requires a thoughtful approach. It also presents an opportunity to modernize practices and enhance operational efficiency. The strong technological aptitude of Generation Z provides clinics with an opportunity to integrate modern innovations into daily routines. Training programs that utilize virtual reality simulations or artificial intelligence can engage both younger and experienced staff, fostering collaboration and enhancing skills. Clearly defined roles, transparent communication about work schedules, and equitable access to professional development opportunities are critical to meeting the expectations of Generation Z. Additionally, adopting a participative leadership style that encourages input from all employees can strengthen engagement and team cohesion. Structured initiatives to promote the exchange of knowledge between younger and more experienced staff members can create valuable synergies. While seasoned professionals impart practical expertise, Generation Z contributes fresh perspectives and innovative ideas. Mentorship programs and interdisciplinary training sessions can serve as effective platforms for this exchange. Flexible work arrangements, such as guaranteed time for personal activities or hybrid options for administrative tasks, can enhance job satisfaction for Generation Z employees while maintaining operational continuity.

## Conclusion

Generation Z introduces a transformative dynamic to clinical practice in Plastic Surgery. Their strengths include a willingness to embrace innovation, a collaborative approach to teamwork, and a focus on efficiency and sustainability. These attributes provide clinics with opportunities to modernize workflows and establish an attractive environment for future talent. To fully harness the potential of Generation Z, it is essential to address the differences in work styles and expectations with a strategic and thoughtful approach. By adopting transparent communication practices, integrating advanced technologies, and fostering intergenerational collaboration, clinics can minimize potential conflicts and cultivate a productive and harmonious work environment. Ultimately, such efforts benefit not only the clinical team but also the patients, who receive care from a motivated and cohesive group of professionals.

## Italy (Franco Bassetto, incoming president to SICPRE)

### What role does the generational shift to Generation Z in Plastic Surgery play in your national society?

The generational shift to Generation Z has played an important role in our national Society in terms of a different approach to social media and online courses. In recent years there has been a constant increase in the use of social media to inform the population and in the number of online courses (as e. g. webinars) to train the residents. Finally, there has been much interest in the use of artificial intelligence both to train the surgeons and to inform the population as well.

### What are the main challenges from your perspective?

The correct and ethical use of social media. Increasingly social media is used as a showcase by colleagues attempting to influence the population and to “generate customers”. The challenge will be to identify these behaviours in order to stop them converting the social media into a tool to “trap” the vulnerable.

### What role does the new relevance of work-life balance in coping with everyday life play for Plastic Surgery?

It is becoming evermore difficult to balance work and life, especially because both the number of patients and their expectations are constantly increasing

### What consequences do you expect for continuing education in Plastic Surgery?

More and more educational courses will take place in the coming years due to the constant evolution of products and surgical techniques. Many of these will be online in order to promote the continuing education and to ensure the normal performance of the surgical activities.

### What role do the digital skills of Generation Z and social media play?

It's a major role as Generation Z intuitively promotes the use of social media in our society in order to train itself and to inform the population.

### What structural changes will be necessary in future?

Our society has to become more digitally aware.

## Spain (Jaume Masia, past president to SECPRE)

In many countries, social change is creating new challenges that will also impact upon the practice of medicine and make adjustments essential. Generation Z has also arrived in Plastic Surgery and the constantly evolving challenges in patient care, continuing education and research need to be mastered. The generational shift to Generation Z (born roughly between 1997 and 2012) in Plastic Surgery in Spain reflects broader global trends, but with nuances influenced by Spanish culture, societal attitudes, and healthcare systems.

The emergence of Generation Z Plastic Surgeons in Spain is poised to reshape the future of the specialty, bringing fresh perspectives, technological adeptness, and evolving priorities. Their unique traits and generational experiences influence how the field is practiced, taught, and perceived.

Generation Z Plastic Surgeons will face unique challenges and opportunities as they navigate careers in Spain's public healthcare system. Their approach will likely be shaped by their values, technological fluency, and a commitment to systemic improvements.

Here's a closer look at the potential impacts of this shift:

#### 1. *Advocating for Better Resources and Infrastructure*

*Addressing Resource Constraints:* Public hospitals in Spain often face budget limitations, leading to long wait times and limited access to advanced techniques in Plastic Surgery. Gen Z surgeons are likely to push for increased funding and better infrastructure to modernize public healthcare.

*Technology Integration:* They may advocate for the adoption of state-of-the-art tools like 3D imaging, robotic surgery, and advanced microsurgical instruments in public hospitals.

#### 2. *Embracing Holistic Patient Care*

*Balancing Aesthetic and Reconstructive Work:* Public hospital Plastic Surgery often prioritizes reconstructive cases (e.g., trauma, cancer reconstruction, congenital deformities) over purely aesthetic procedures. Gen Z surgeons will likely embrace the opportunity to make meaningful impacts on patients' quality of life while balancing this with innovation in aesthetic surgery.

*Patient-Centered Approaches:* This generation is sensitive to individual needs and will focus on personalized care plans, even within the constraints of public systems.

#### 3. *Driving Efficiency and Reducing Backlogs*

*Streamlining Workflows:* Gen Z surgeons are adept at leveraging digital tools to optimize scheduling, streamline patient pathways, and reduce administrative burdens.

*Innovative Techniques:* Their preference for minimally invasive and hybrid approaches can reduce operating times and recovery periods, easing patient throughput in public hospitals.

#### 4. *Promoting Equity and Access*

*Expanding Services for Underserved Groups:* Gen Z surgeons are likely to focus on ensuring equitable access to reconstructive and aesthetic procedures for all patients, including marginalized populations.

*Addressing Regional Disparities:* They may champion programs that bring advanced Plastic Surgery services to underserved regions of Spain, reducing the urban-rural healthcare gap.

#### 5. *Tackling Burnout and Work-Life Balance*

*Cultural Shift in Work Practices:* Generation Z values work-life balance and mental health. They may advocate for more sustainable working hours, better staffing ratios, and improved support systems within the public hospital environment.

In Spain public hospitals often have restricted budgets, limiting access to cutting-edge tools and materials. Salaries continue to be very low compared to most EU countries. This situation, together with a high demand for cosmetic surgery, means that currently only a small number of residents who complete the specialty want to stay in the public health

system and in university hospitals.

If we take into account that in the next 5 to 10 years there will be a very high number of retirements, the lack of Plastic Surgeons in the public health system will be dramatic.

Currently we are already importing many doctors from Eastern European countries such as Romania and Poland, as well as from countries that for years have had an overproduction of specialists such as Italy. The fact that most professionals want to maintain a balance between work life and family or personal life means that many Plastic Surgeons do not want to extend their daily work hours and therefore it is increasingly difficult to perform long surgeries such as reconstructive microsurgery.

#### 6. *Evolution of Medical Education and Training*

*Adoption of New Learning Modalities:* Gen Z surgeons are likely to transform medical education by incorporating virtual reality (VR), simulation-based training, and collaborative learning platforms.

*Focus on Work-Life Balance:* They may advocate for reforms in training that promote better work-life balance, addressing burnout and mental health challenges common in the medical field.

#### 7. *Advocating for Public-Private Collaboration*

*Leveraging Private Resources:* Gen Z surgeons may seek innovative public-private partnerships to bring advanced technologies and techniques into public hospitals, such as sharing surgical innovations or training opportunities across sectors.

*Addressing Patient Overflow:* By collaborating with private clinics, they can help manage high patient volumes and reduce wait times in the public sector.

#### 8. *Embracing Diversity and Inclusivity*

*Cultural Sensitivity:* Generation Z's focus on inclusivity will lead them to champion policies and practices that respect the diverse cultural, gender, and socioeconomic backgrounds of Spain's population.

*Expanding Gender-Affirming Surgeries:* They are more likely to advocate for increased access to gender-affirming procedures within the public system.

#### 9. *Global Collaboration and Medical Tourism*

*Collaboration Across Borders:* Comfortable in a globalized world, Gen Z surgeons may forge international collaborations, learning and sharing techniques with peers worldwide.

*Boosting Spain's Medical Tourism:* By leveraging Spain's reputation for quality care and affordability, they can attract more international patients, especially those seeking state-of-the-art procedures.

## Conclusion

Generation Z Plastic Surgeons in Spain are likely to bring a fresh perspective to the public hospital system, advocating for modernization, equity, and holistic patient care. While challenges such as resource constraints and administrative hurdles persist, their adaptability, technological fluency, and commitment to systemic improvements position them as agents of positive change within the



Spanish healthcare landscape. It's an emergency to advocate for reforms in public hospital structures and funding.

## Türkiye (Cenk Demirdöver, president to TSPRAS)

When discussing the generational shift to Generation Z in the current practice of Plastic Surgery, it's important to consider not only the broader global trends but also how they manifest in specific societies, such as Turkey, where cultural, economic, and social factors influence both the practice of Plastic Surgery and the expectations of patients. Due to the geopolitical position of Turkey, The Turkish Society of Plastic Reconstructive and Aesthetic Surgeons (TSPRAS) faces unique challenges and opportunities compared to Plastic Surgery societies in other countries.

In Turkey, as in many other countries, Generation Z's growing interest in Aesthetic Surgery has had a significant impact on the field of Plastic Surgery. However, the role of this shift in Turkey may be influenced by cultural, social, and economic factors that differ from other nations.

### *Increased Demand for Aesthetic Procedures*

As social media and influencer culture gain traction in Turkey, especially on platforms like Instagram and TikTok, younger people are increasingly exposed to beauty standards that emphasize aesthetic enhancement. This has led to a rise in demand for both surgical and non-surgical procedures. The TSPRAS must therefore adapt to meet these demands, balancing aesthetic trends with ethical considerations.

### *Balancing Demand and Ethical Responsibility*

There is a growing trend among younger patients who want procedures that may not always align with their best interests or long-term health. For instance, the trend of seeking overly dramatic facial modifications for Instagram-style beauty can lead to unrealistic expectations. Plastic Surgeons in Turkey will need to focus on patient education and psychological screening, ensuring that patients are making informed decisions and are not motivated by fleeting trends or body dysmorphia.

### *Influence of social media*

Social media influencers in Turkey, like in other countries, can shape beauty standards and promote Plastic Surgery. Turkish Plastic Surgeons may need to navigate the influence of these personalities, ensuring that patients are well-informed and that trends promoted online align with responsible medical practices.

Social media platforms like Instagram, TikTok, and YouTube set beauty trends, and Turkish patients, especially younger ones, often come in with specific images from influencers. This can lead to both positive and negative outcomes, as some may desire unrealistic or overly edited looks. Surgeons must manage these expectations and educate patients on what is achievable and healthy.

### *Plastic Surgeon Well-Being*

Plastic Surgeons themselves are under increasing pressure to balance their work with personal time. Long working hours, frequent surgeries, and a high volume of patients, especially with the influx

of medical tourism, can lead to burnout. Fostering a better work-life balance for surgeons can lead to better mental health and improved patient care.

### *Patient Expectations*

As younger patients, particularly Generation Z, prioritize mental health and a balanced lifestyle, they may expect more flexible scheduling, shorter recovery times, and less invasive options. Non-surgical procedures like fillers, Botox, and laser treatments, which require less downtime, could grow in demand as patients seek quick results without interrupting their busy lives.

### *Workplace Flexibility and Technological Advancements*

Telemedicine and virtual consultations may become increasingly important as patients demand more flexibility in managing their time. Surgeons may need to integrate these technologies into their practice, providing consultations or follow-ups remotely, which could align with work-life balance needs for both patients and surgeons.

### *Continuing education and Emphasis on Modern Techniques*

Surgeons will need to stay up to date with minimally invasive procedures, such as Botox, fillers, and laser treatments, which are growing in popularity. Training programs will need to be updated to incorporate these technologies alongside traditional surgical methods.

### *Digital Literacy*

Surgeons will need to improve their digital literacy, not just in patient care (e. g., telemedicine, virtual consultations) but also in marketing and managing their online presence. Given the role of social media in shaping patient desires, Plastic Surgeons must learn how to engage ethically with patients and understand the digital tools that influence their practice.

In conclusion, the generational shift toward Generation Z will have a significant impact on Plastic Surgery in Turkey. The Turkish Society of Plastic Reconstructive and Aesthetic Surgeons (TSPRAS) will need to adapt by embracing technological advancements, strengthening ethical practices, and addressing the unique demands of younger patients while ensuring that surgeons maintain a sustainable work-life balance. These changes, when properly managed, can ensure that Plastic Surgery continues to thrive in Turkey while prioritizing patient well-being.

## United Kingdom (Paul McArthur, incoming president to BAPRAS)

### **What role does the generational shift to Generation Z in Plastic Surgery play in your national society?**

Within our national society (BAPRAS) we fully support, both with member input and financially a standalone trainee association - PLASTA (Plasta.org.uk). PLASTA has within its own organisation a full committee structure. As such we, in BAPRAS request trainee representation on all our committees from council down. This has proven invaluable in providing an insight into the needs of the trainee both in their professional development and understanding the

generational differences between the established consultant body and the up and coming 'Gen Z'. This important interaction and contribution has also allowed the established - baby boomer - generation to understand more fully the value of the need to make time for their own extra professional development to facilitate a more balanced approach to life in general.

### What are the main challenges from your perspective?

The main challenges come from recognising the impact that several changes have made to the amount of time available for training. The introduction some years ago of the European working time directive (EWTD) had a significant impact on the time trainees had available to them to gain the required competencies. It has also resulted in the loss of the old style "firm" in which trainees would be part of a fixed team for 3–6 months. The EWTD led to the introduction of shift patterns in which trainees have lost that direct "team" connection. This, together with a reduction in the time spent in a training program (now 6 years). As a consequence, we have moved towards a competency based rather than apprenticeship style training program. This has of course brought about further challenge with increased paperwork for the trainee, rigorous annual review and less time / exposure to on all emergency / trauma management. Moreover, most trauma surgery is now delivered during daytime rather than through the evening and into the night. This can impact on the trainers and trainees' availability and the conflict between elective and trauma opportunities.

### What role does the new relevance of work-life balance in coping with everyday life play for Plastic Surgery?

Gen Z understand the value and appreciation of Work-Life-Balance and perhaps older generations can learn from this. However, we must also consider the impact that the covid pandemic had on all of us. We spent many months working in a very different way and so even the baby boomers saw the value of time away from work - this is highlighted by a number of early retirements. We are increasingly becoming aware and accepting of the concept of "burn out" in surgeons. Adopting a more balanced approach may help many of us to be more productive for longer.

### What consequences do you expect for continuing education in Plastic Surgery?

In relation to continuing educational requirements. We are reviewing how education is delivered nationally, regionally and in the respective hospitals. BAPRAS provides a national on-line training programme that trainees are expected to complete. We have also developed and deliver an additional on-line resource available to all trainees eLPRAS – also made available to low- and middle-income countries. Online learning has the advantages of greater geographical reach - as noted with our national training programme but can lack the interaction and direct social networking associated with the coffee breaks etc.. It is also a cheap alternative for the trainee as there are no travel or accommodation expenses. The limited number of years in training combined with the reduced hours per week also limits the specific opportunities for trainees but they have to work around this to gain their indicative numbers (logbook)

which forms one requirement for completion of higher surgical training.

### What role do the digital skills of Generation Z and social media play?

As a group the 'Gen Z' trainees are using their digital skills to great effect, not only in communications but also through innovation. There are many apps developed by trainees on the Apple Store, an example of this is the Merseyburn App®. There is a greater acceptance of social media within medicine by Generation Z and at the same time, concern among the boomers due to the limited regulation of acceptable content and the potential risk to patient confidentiality.

### What structural changes will be necessary in the future?

In recent years we are beginning to see the impact and benefits of medical school recruitment with the gender balance changing within surgery and therefore in Plastic Surgery. For more than 10 years BAPRAS has conducted a national work for planning survey. This provides detailed information on the surgeons of all grades, the gender split, whole or part time, the subspeciality activity and a host of other data points as from every plastic surgery unit in the UK. The data has demonstrated a number of year on year trends, including the rise in the total number of Plastic Surgeons, a change in the whole time part time ratios, an increasing number of female colleagues. There is a growing acceptance that families require maternity/paternity time together with days for family. With this comes a greater change in working patterns when one or both partners' choose to work less than full time. This can have significant impact upon any departments activity or requirement to fill the activity with additional staff. Going forward we will need to be more flexible in our planning, perhaps more creative with the use of our physical resources - out patient / theatre capacity - with an increasing change in job planning e. g. weekend working with time off in the traditional week - Mon to Friday. There is a balance to be found, hopefully between the need for a department to provide a full service to our patients and support our colleagues enjoying a full and well balanced but productive life.

United States of America (Gregory R.D. Evans, past president to ASPS)

### What are the main challenges from your perspective?

What is Generation Z? It is often defined as the social generation that grew up with access to the Internet and portable digital technology from a very young age – They have been dubbed as digital natives. Some of the negative effects of screen time causes Generation Z to live more slowly than their predecessors, having a lower rate of teenage pregnancies and consuming less alcohol. Generation Z teenagers are more concerned than older generations with academic performance and job prospects and are better at delaying gratification than their counterparts in the 1960s. Their youth subcultures have not disappeared, but they have been quieter. Globally there is evidence that girls in Generation Z are experiencing puberty at a younger age compared to previous generations.

Allergies are more prevalent than the general population. Around the world, members of Generation Z are spending more time on electronic devices and less time reading books, with implications for their attention span, vocabulary, academic performance and future economic contributions.

Webster's online dictionary define Generation Z as the generation of people born in the late 1990s and early 2000s. The Oxford dictionary defines Generation Z as a group of people who were born between the 1990s and early 2000s and are regarded as being very familiar with the Internet. Generation Z is more educated, well behaved but also stressed, compared to previous generations. The most important personal values for Generation Z were helping their families and themselves by honesty and looking beyond their local communities.

The Covid-19 pandemic was difficult. For older members of Generation Z, they were just joining the workforce while the rest were still in school. While Generation Z proved to be less resilient than the older cohort, their fundamental values did not change. They remained open to change with an easier transition to a hybrid school and remote work environment. Generation Z prefer staying at home, watching television or browsing social media as opposed to visiting museums or galleries.

Data from statistics from North America (Canada) demonstrated that generation Z comprises about 18% of the Canadian population. As consumer members of Generation Z, they typically rely on the Internet to research their options and to place orders. They tend to be skeptical and will shun firms whose actions and values are contradictory. Their purchases are heavily influenced by trends promoted by influencers on social media as well as the fear of missing out (FOMO) and peer pressure.

Teenagers and young adults are especially vulnerable to depression and anxiety during adolescence. Generation Z appears to have an increase in potential depression. General sleep deprivation, along with a lower mood, worsens emotional regulation of anxiety and depression. Generation Z is the least religious generation in history. Generation Z is concerned about climate sustainability and animal welfare, where 79% of Generation Z will go meatless between once and twice a week. It is the first cohort to have Internet technology readily available at a very young age with increasing use of mobile devices growing exponentially with time. This leads to less face-to-face interactions. Personally, I have noted this characteristic in my interaction with Generation Z, being more apt to text and prefer zoom meetings than sitting down for a face to face or even picking up the phone for discussion. Cyber bullying is not uncommon and has been evident by several of our resident interactions.

Information from the American Society of Plastic Surgeons (ASPS) indicate that Generation Z only accounts for about 6% of the cosmetic surgery and non-surgical intervention across the United States. Generation Z has certainly taken a different stance from older generations when it comes to how cosmetic surgery impacts your looks with almost 2/5 revealing they found cosmetic surgery made people look less attractive. However, Generation Z believes in proactive aging as opposed to anti-aging. They have grown up in a world where social media is ubiquitous and therefore there's a pressure to constantly look "great at all times." They are more real than millennials and Xers when posting but want less curated interactions with social media rather than using fake fillers. Generation Z has a unique expe-

rience and outlook with social media. They have normalized anti-aging treatments and brought them into the mainstream. They have truly grasped the notion of proactive healing, have spent time and money on regenerative and preventative treatments such as active skin care and injectables. They have a significant adverse tendency to go under the knife when you look at options for cosmetic surgery. However, if Generation Z trend toward procedures, they include rhinoplasties, toxins and lip augmentation along with dermal fillers and other non-surgical skin treatments.

When teaching generations Z residents, our approach should change. One traditionally has always utilized articles and books and journals for teaching procedures. Now, YouTube videos or "surfing" frequently prior to surgery to determine what is the best surgical option are common. Generation Z are more aggressive regarding obtaining "marketeters" and a social media presence when developing a practice than building and determining the amount of office staff that is required while obtaining and developing a business manager. They assume that most of their patients will come from social media and that their presence on social media is a key component to not only marketing but also attracting patients. Our traditional approach of practicing surgery, and taking care of patients at all hours, has progressed more to shift work mentality – managing patients during set time frames. Generation Z do have their uniqueness and talent. One of the interesting things about Generation Z is that they are and remain enthusiastic and willing to learn. It is how we teach and change our approach with different generations that is important. Each generation learns differently and this will soon become the norm to develop and change the practice of Plastic Surgery. Plastic Surgery has become a great deal more marketing and social media than actual referrals of traditional patients and or referrals by your colleagues. Regardless of what generation you are from or your background, the challenge to all of us in Plastic Surgery is maintaining our core principles, delivering safe and excellent patient care and demanding that people do not only get sick from 8:00 AM to 5:00 PM but throughout the entire 24-hour period of the day. I have been stimulated and educated by our Generation Z residents. They have helped me with my social media presence and are not shy in discussing their concerns or their unwillingness to perform actions just because someone in authority asked them to. We all will continue to develop and progress in this specialty. And as things change, we must remain ahead of the curve. I'm sure the next generation will have their own challenges which we will need to adjust. Keeping an open mind, communication and accepting of different approaches will allow our specialty to continue to grow and expand.

## Discussion

This paper provides an overview of the expectations, challenges, and solutions associated with the generational shift in Plastic Surgery, as seen through the perspectives of leaders from the largest national Plastic Surgery societies in Europe and the United States. The authors agree that social changes and demographic trends will significantly influence the field of Plastic Surgery. Additionally, the rapid transition to an increasingly digitalized society needs rigorous changes in patient care, the modernization of digital infrastructure and a shift in mindset and work-philosophy.

The dynamics of the workforce in Plastic Surgery are shifting, particularly among younger surgeons, who bring new qualifications, expectations, and goals to the field. Many young applicants prioritize work-life balance, leading to an increased focus on pursuing careers in aesthetic surgery [1, 6]. Furthermore, the increasing presence of social media and high demand for aesthetic procedures promote this orientation, leaving reconstructive surgery in a second plane. This generational shift is likely to impact in resident training models as well. Members of Generation Z demonstrate lower resilience compared to Generation X but exhibit greater openness to change, self-improvement, and flexible learning [2]. Although younger surgeons increasingly favour aesthetic surgery due to better working conditions, a study examining generational differences and digital experience found Generation Z demonstrated significant precision advantages on the Da Vinci Skills Simulator ( $p = 0.019$ ). Frequent two-thumb smartphone typing correlated with improved Glass Movement skills ( $p = 0.006$ ), suggesting that early robotic surgery training during residency could enhance skill development and that younger generations may find robotic surgery easier due to their familiarity [10].

Following the trend of prioritizing work-life balance and mental health, many young surgeons trend to shift toward private practice early in their careers, leaving public healthcare systems with staffing shortages, particularly in rural or underserved areas. Coupled with the increasing demand for aesthetic procedures driven by social media, this shift raises concerns about the future workforce for reconstructive surgery in public hospitals [11].

Burnout remains a critical issue in medicine, particularly among surgeons. According to the Medscape National Physician Burnout & Depression Report 2018, burnout rates among physicians reached up to 42%, with surgical specialties being among the most affected [12]. General surgeons reported the highest rates, while Plastic Surgeons experienced burnout levels of up to 36%, a figure that demands serious attention [13]. Burnout often leads to reduced professional engagement and, in some cases, permanent withdrawal from the workforce [14]. Generation Z, however, may hold the potential to improve these issues.

Residents beginning their careers often expect an ideal working environment and have specific workplace preferences aimed at promoting their well-being [15]. A survey of over 700 members of the American Society of Plastic Surgeons revealed that while more than three-quarters were satisfied with their careers, only 50% were content with their work-life balance, with lower satisfaction linked to female gender, working over 60 hours per week, on-call emergency duties, and a focus on reconstructive practice [16].

The increasing predominance of women in training programs has influenced the daily routines among residents, but this shift appears to have no measurable impact on the quality of training or workload [15]. For male residents, work-life balance remains the most important factor influencing job satisfaction, whereas for female residents, dissatisfaction is primarily driven by financial compensation [7]. Despite women now representing the majority of medical graduates, only a small proportion choose to pursue careers in surgery, favoring specialties such as internal medicine. This trend contributes to a growing shortage of young talent in surgical disciplines, which may negatively impact medical care in surgical clinics [17].

All interviewed leaders agreed that traditional learning models are increasingly being replaced by virtual simulations and online resources. Generation Z's immediate access to abundant information and advanced research tools has facilitated rapid knowledge acquisition while diminishing their use of traditional books and in-person mentorship. Leaders from Spain and Turkey highlighted that this generation's digital fluency is transforming medical education through the integration of simulation-based training and virtual platforms. This shift has the potential to provide high-quality education to future surgeons in rural areas or from lower socioeconomic backgrounds. Additionally, this approach promotes a broader exchange of knowledge, reducing tunnel vision and enhancing patient care quality through international collaboration. Therefore, it is essential to ensure that online resources are rigorously developed and validated to maintain high standards of education and training.

The "digital natives" generation utilizes the internet and technology not only for knowledge acquisition but also for communication, promotion, and advertising through social media. While the widespread use of social media offers undeniable advantages, concerns about its misuse have become increasingly prominent. In the field of Plastic Surgery, this misuse is particularly alarming. Unqualified individuals, celebrities, and influencers often disseminate misinformation about Plastic Surgery, fostering unrealistic patient expectations and contributing to conditions such as body dysmorphia [18, 19]. Ironically, many qualified Plastic Surgeons fail to leverage the potential of social media to provide accurate information, despite its significant influence on societal perceptions [20]. Leaders in the field emphasize the ethical responsibility of Plastic Surgeons to engage on social media platforms in a manner that upholds professional credibility and educates the public. Such efforts could help mitigate the spread of misinformation and improve public understanding of Plastic Surgery [18]. Additionally, the integration of social media into public hospital settings and medical education could further enhance its utility. Platforms like Instagram and TikTok, which are widely used by younger generations, could also serve as valuable tools for academic teaching. By presenting accurate and educational content, these platforms have the potential to clarify complex concepts for medical students, patients and improve public health literacy [19].

The growing influence of digital tools aligns with more changes in the medical field, including shifts in workplace relationships and generational attitudes toward hierarchy and collaboration. Society leaders from countries like Finland, France, and Germany observe a decline in adherence to traditional hierarchies and a preference for more collaborative, and egalitarian relationships. This "leveling" of social relations is particularly evident in hospitals, where Generation Z interacts with their superiors and peers with less formality than previous generations, what can lead to generational tensions. The German society highlights the need for strategies to bridge these differences, promoting a collaborative environment that combines Generation Z's innovation with the experience of senior professionals.

To gain more detailed insights, additional data and broader international discussions are essential. Conducting an online questionnaire through an *ESPRAS* survey could address this need, pro-

viding a foundation for further dialogue within the *ESPRAS European Leadership Forum (ELF)*.

## Conclusion

The generational shift represented by Generation Z is bringing transformative changes to the field of Plastic Surgery, reshaping education, professional priorities, and the dynamics of patient care. This potentially marks a key moment also for Plastic Surgery, requiring rapid and proactive adaptation to the changing values, technologies, and professional expectations. This shift is also an opportunity to rethink traditional models and embrace innovation, looking for a more inclusive, balanced, and digitally integrated approach to surgery, patient care and education. Success will depend on collaboration across generations, international leadership, and a commitment to addressing both emerging challenges and undiscovered potential. The competition to get human resources into medicine, surgery and Plastic Surgery has already begun. It will be key to keep all positions attractive to entice those with the greatest potential into academic Plastic Surgery. By embracing these changes with visionary thinking and proactive as well as anticipatory planning, it should be possible to shape a dynamic and sustainable future for Plastic Surgery.

## Conflict of Interest

The authors declare that they have no conflict of interest.

## References

- [1] Schenarts PJ. Now Arriving: Surgical Trainees From Generation Z. *J Surg Educ* 2020; 77: 246–253. DOI: 10.1016/j.jsurg.2019.09.004. Epub 2019 Sep 24. PMID: 31562032
- [2] Harari TT, Sela Y, Baretok-Bojmel L. Gen Z during the COVID-19 crisis: a comparative analysis of the differences between Gen Z and Gen X in resilience, values and attitudes. *Curr Psychol* 2023; 42: 24223–24232. DOI: 10.1007/s12144-022-03501-4
- [3] Michael Dimock. Defining generations: Where Millennials end and Generation Z begins. Pew Research Center
- [4] Bagdi H, Bulsara HP, Sankar D et al. The transition from traditional to digital: factors that propel generation Z's adoption of online learning. *International Journal of Educational Management* 2023; 37: 695–717. DOI: 10.1108/ijem-01-2023-0003
- [5] Berard M, Peries M, Loubersac J et al. Screen time and associated risks in children and adolescents with autism spectrum disorders during a discrete covid-19 lockdown period. *Frontiers in Psychiatry* 2022; 13: DOI: 10.3389/fpsy.2022.1026191
- [6] ASPSRC Subspecialty Career Pathways Study GroupStoehr JR, Vaca EE, Bacos JT et al. Changes in Subspecialty Interest of Plastic Surgery Residents With Progression of Training: Impact on Academic Attrition. *J Craniofac Surg* 2023; 34: 1212–1216. DOI: 10.1097/SCS.00000000000009214. Epub 2023 Mar 6. PMID: 36872511
- [7] Mortada H, Mustafa N, Bamakhrama B et al. Employment and Career Choice Satisfaction among Saudi Plastic Surgeons: A Cross-sectional, Questionnaire-based Study. *Plast Reconstr Surg Glob Open* 2021; 9: e3884. DOI: 10.1097/GOX.0000000000003884. PMID: 34712544; PMID: PMC8547935
- [8] Cantrell M. Recruiting and retaining generation z in the workforce. *Edis* 2024; 2024: DOI: 10.32473/edis-wc448-2024
- [9] Giunta RE, Schaefer DJ, Demirdöver C et al. ESPRAS Survey: National and European Societies for Plastic Surgeons. *Handchir Mikrochir Plast Chir* 2024; 56: 156–165. English. DOI: 10.1055/a-2250-2800 Epub 2024 Mar 7. Erratum in: *Handchir Mikrochir Plast Chir*. 2024 Apr;56(2):e2. doi: 10.1055/a-2293-0922. PMID: 38452796
- [10] Szabó DI, Vereczkei A, Papp A. From gaming to surgery: the influence of digital natives on robotic skills development. *J Robot Surg* 2024; 19: 12. DOI: 10.1007/s11701-024-02178-0. PMID: 39613927; PMID: PMC11607060
- [11] Herrera FA, Chang EI, Suliman A et al. Recent trends in resident career choices after Plastic Surgery training. *Ann Plast Surg* 2013; 70: 694–697. DOI: 10.1097/SAP.0b013e3182863669. PMID: 23673566
- [12] Medscape National Physician Burnout & Depression Report 2018. 2018 Available at: <https://www.staging.medscape.com/slideshow/2018-lifestyle-burnout-depression-6009235>. Accessed January 18, 2018
- [13] Ribeiro RVE, Martuscelli OJD, Vieira AC et al. Prevalence of Burnout among Plastic Surgeons and Residents in Plastic Surgery: A Systematic Literature Review and Meta-analysis. *Plastic and Reconstructive Surgery - Global Open* 2018; 6: p e1854. DOI: 10.1097/GOX.0000000000001854
- [14] Ganesh Kumar N, Olinger TA, Drolet BC et al. The perspective of Plastic Surgery program directors in managing resident burnout and mental health: are we doing enough? *Plast Reconstr Surg* 2021; 147: 923e–924e
- [15] Aulia I, Mustika R, Menaldi SL. Impact of Women's Domination in Plastic Surgery Residency Program in Indonesia. *Plast Reconstr Surg Glob Open* 2021; 9: e3757. DOI: 10.1097/GOX.0000000000003757. PMID: 34422531; PMID: PMC8373561
- [16] Streu R, McGrath MH, Gay A et al. Plastic surgeons' satisfaction with work-life balance: results from a national survey. *Plast Reconstr Surg* 2011; 127: 1713–1719. DOI: 10.1097/PRS.0b013e3182808d1b3. PMID: 21187810
- [17] Datta RR, Bohle J, Schmidt T et al. Der „Surgical Track“ – innovative Ansätze gegen den Nachwuchsmangel in der Chirurgie [The „surgical track“-Innovative approaches to counteract the shortage of young recruits in surgery]. *Chirurgie (Heidelb)* 2024; 95: 315–323. German. DOI: 10.1007/s00104-023-02029-y. Epub 2024 Jan 25. PMID: 38273036; PMID: PMC10954953.
- [18] Oregi P, Cavale N, Khatib M et al. The Ethics and Responsibilities of Social Media Usage by Plastic Surgeons: A Literature Review. *Aesthetic Plast Surg* 2024; 48: 530–542. DOI: 10.1007/s00266-023-03553-2. Epub 2023 Aug 17. PMID: 37592145; PMID: PMC10917849
- [19] Economides JM, Fan KL, Pittman TA. An Analysis of Plastic Surgeons' Social Media Use and Perceptions. *Aesthet Surg J* 2019; 39: 794–802. DOI: 10.1093/asj/sjy209. PMID: 3013719
- [20] Shauly O, Marxen T, Goel P et al. The New Era of Marketing in Plastic Surgery: A Systematic Review and Algorithm of Social Media and Digital Marketing. *Aesthet Surg J Open Forum* 2023; 5: ojad024. DOI: 10.1093/asjof/ojad024. PMID: 37033450; PMID: PMC10078152