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DOI: 10.4103/jehp.jehp_1702_21

# Generation-dependent non-educational characteristics of medical students

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## Abstract:

**BACKGROUND:** Educational centers accommodate people of varying generations. Indeed, each generation has its specific priorities and values that affect its performance and decisions in various aspects, including educational aspects. Understanding the traits of members of a given generation facilitates understanding how their performance can be improved inside and outside the classroom. So, this study was designed to identify the non-educational characteristics of MD students in the universities of medical sciences in Iran.

**MATERIALS AND METHODS:** The present study adopted a qualitative exploratory approach. Data were collected through face-to-face, semi-structured interviews. Participants included general medicine students who had completed at least one semester. Sampling was purposive with maximum variation. Sampling was continued until data saturation, and a total of 32 interviews were conducted. Graneheim and Lundman's content analysis approach was adopted to analyze the data. Lincoln and Guba's reliability criteria were used to achieve the accuracy and reliability of the data.

**RESULTS:** A total of 32 students were interviewed ( $n = 18$  women and  $n = 14$  men; age range: 19–27 years). The participants had completed 2–13 semesters and had between one and six siblings. A total of 10 major categories emerged as the generational traits of students. The main categories included devoted parents, money as the key reference of value, non-sexism, religious perplexity, experiencing oneself with others, my life's address, tunnel vision, evasion from responsibility, winning fame, and I and nothing else.

**CONCLUSION:** For them, gender and religion have lost their former meaning and they believe in more freedom. They are also one-dimensional people, lethargic and night people, who evade responsibility and have a strong desire to be seen, approved, and respected. They also prioritize themselves and their peace of mind. Since these characteristics can have many direct and indirect effects on various aspects of their lives, including the educational aspect, it can be very beneficial for people interacting with them to identify and consider these characteristics.

## Keywords:

Generation, generational characteristics, MD students, non-educational

## Introduction

Educational centers accommodate people of varying generations. These people may have characteristics more typical of other generations and may not easily fit into the generation defined for them. However, social anthropologists have categorized generations based on core values, attitudes, family, occupation, personal life, and teaching–learning style.<sup>[1]</sup> Indeed, each

generation has its specific priorities and values that affect its performance and decisions in various aspects, including educational aspects.<sup>[2]</sup> Understanding the traits of members of a given generation facilitates understanding them and how their performance can be improved inside and outside the classroom.<sup>[3]</sup>

The medical education system, similar to other educational systems, must attend to the differences and traits of varying generations.<sup>[4-8]</sup> At present, millennials,

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**How to cite this article:** Firoozjahantighi A, Jowkar F, Haghani F. Generation-dependent non-educational characteristics of medical students. *J Edu Health Promot* 2022;11:426.

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Received: 22-11-2021

Revised: 28-03-2022

Accepted: 25-06-2022

Published: 28-12-2022

also known as Generation Y or Gen Y, born roughly between 1982 and 2002,<sup>[9]</sup> as per Howe and Strauss's categorization, constitute members of a demographic cohort, whose formation coincides with that of the fourth generation (born between 1991 and 2011) in Iran. They are one of the largest and most diverse generations that have ever entered universities. While studies present slight differences regarding the period of this generation, the people of this generation have characteristics that distinguish them from other generations.<sup>[10]</sup> Preceding generations may have valued issues that may not be as significant to millennials. Although it is possible that educators overlook everything from a generational perspective, identifying the traits of this generation will help educators provide learners with better training.<sup>[11]</sup> On the other hand, a consideration of the traits of learners in the medical field becomes more critical, specifically because of clinical education and patient care, where students need to interact with a cohort consisting of different generations. To manage such a multi-generational environment, it must be borne in mind that each generation has characteristics that can directly or indirectly, positively or negatively, affect their learning.<sup>[12]</sup>

As such, stakeholders involved in medical education need to identify the generational traits of learners and make alterations in the general medical education system, so that learners can be treated according to the traits peculiar to their generation.<sup>[13]</sup> With the emergence of various and rapid forms of global communication, millennials have been in constant interaction with social networks, the Internet, and unlimited information. Hence, the personality of the people of this generation, their thought processes, and educational tendencies and expectations are highly different from those of previous generations and are unique.<sup>[3,11]</sup> It is even claimed that there is a psychological difference between the brains of this generation and those of previous generations.<sup>[14]</sup> This being said, this study intended to explore and identify the non-educational traits of countrywide general medicine students born in the 1990s.

## Materials and Methods

### Study design and setting

The present study adopted a qualitative exploratory approach. Data were collected through face-to-face, in-depth, semi-structured interviews. The researcher used an interview guide to build a uniform interview process. The guide contained predesigned headings, and clarifying questions were used to steer the interview based on the participants' answers and research objectives. The researcher begins the interview with a general question such as the following: "What experience do you have from the first day of the medical class?" and

continues it with probing questions like "In the field of education, what different characteristics do you have in comparison to previous generations?"

### Study participants and sampling

Participants included general medicine students who had completed at least one semester. Sampling was purposive with maximum variation. Moreover, as the sampling proceeded, decisions regarding the selection of the next participants were made based on issues and questions that had arisen. Sampling was continued until data saturation, and a total of 32 interviews were conducted from October 2018 to July 2019.

### Data collection tool and technique

Initially, the researcher tried to establish a good relationship with and gain the trust of the participants, provided them with sufficient explanations, and invited them to complete the written consent form for participation in the study. Subsequently, each participant set a time and place for the interview. The interviews were conducted individually and in a peaceful environment. Interviews lasted for 30 to 50 minutes, depending on circumstances, available time, information, and patience of the participant. Only one interview took two sessions and lasted a total of 100 min. The first three interviews were unstructured, intending merely to formulate appropriate questions for subsequent interviews. Thereafter, the interviews were conducted in a semi-structured style. As an interview was to conclude, participants were asked to comment if anything remained unmentioned. The interview process was recorded using a voice recorder with the consent of the participants. Moreover, all non-verbal data including the interviewee's movements and the interviewer's sense of the interview steps were recorded immediately after each interview.<sup>[15]</sup>

Graneheim and Lundman's content analysis approach was adopted to analyze the data.<sup>[16]</sup> First, the interview transcribed text was read through repeatedly to familiarize with and immerse in the data and gain an overall insight. Afterward, the units of meaning were selected, and the text was broken down into units with smaller contents based on the research purpose and question. Subsequently, the significant points in the texts were extracted as open codes, and the codes constituted main codes under broader headings based on the similarities and differences present between them. A number of the main codes were categorized as subcategories, and some subcategories were grouped into main categories. Accuracy and strength of the research were checked using the criteria proposed by Guba and Lincoln.<sup>[17]</sup> Researcher tried to increase the credibility of the research with long-term participation, adequate participation, and interaction with participants, gathering

valid information and confirmation of information by the participants. Repetition of step-by-step data collection and analysis and utilization of review by supervisors, consultants, and experts occurred to increase the reliability of data. To increase the data validation criteria, university faculty opinions and their additional comments were used. For transferability of the study, a full description of the research was conducted so it would be applicable in future reserarchs.

### Ethical consideration

Interview was conducted after establishing appropriate communication and gaining the participants' trust, providing necessary explanations for them, and asking them to fill the consent form to participate in the study. Then, the time and place of the interview were fixed with the consent of the participants.

## Results

A total of 32 students were interviewed ( $n = 18$  women and  $n = 14$  men; age range: 19–27 years). The participants had completed 2–13 semesters and had between one and six siblings.

As shown in table 1(appendix 1) total of 10 major categories and 51 subcategories emerged as the generational traits of students. The main categories included *devoted parents, money as the key reference of value, non-sexism, religious perplexity, experiencing oneself with others, my life's address, tunnel vision, evasion from responsibility, winning fame, and I and nothing else.*

### Devoted parents

This category describes the characteristics of the participants' parents who have experienced hardships, insecurity, and lack of facilities due to the war and revolution. As such, they do not like their children to have similar experiences and are thus devoting themselves to their children. To protect the children from hardships, they have taken control of affairs themselves and took on all the tasks and responsibilities. These parents are educated people who adapt themselves to their children's conditions and give them the freedom to choose and act. A participant mentioned:

*"Our parents hold us so dear. [...] Older children were not treated like this.... And I have noticed that all parents behave so ... as if it is only they who have children in the world."*

### Money as the key reference of value

Participants believed that the lives of this generation and society are tied to financial and monetary issues, and that a successful person has a higher income and a more prosperous life. Accordingly, the financial aspect

of life was highly critical to the participants. Participants cited money and a financially secured future as a top goal of themselves and the community, underlying why they chose medicine. It is because medicine is known as a field with high income and high job guarantee. A participant stated:

*"Mostly, I think, material issues are ruling their mind, I mean, materialism and science. When we look at them, we find such rigid things surrounding them, and that is why they are always studying; they are always thinking about materialism [...]."*

### Non-sexism

Under this category, participants noted the narrowing border between men and women, which means that gender discrimination is declining. According to them, the differences and discrimination between men and women are diminishing as a result of the higher emphasis on the role of women in society, the prosperity of women in society, and increased awareness and free interaction between men and women. Participants looked at human beings beyond gender, believing that an asexual view of people was one of the contributing factors to progress. From the participants' viewpoint, the current society is still patriarchal, but with iconoclasm, independence, and the prominent role of women, it is moving toward balance. A participant highlighted thus:

*"For me, as a boy, who has always witnessed the top-down view ... there is no difference between the capabilities of a man and a woman,... maybe physically, but not in terms of capacity and capabilities ...."*

### Religious perplexity

This category reflects weakened religious beliefs and participants' different views on religion. For them, there is a big difference between what they conceive of religion and what religion means in society and they have to accept it. This has, indeed, led them to wander between a set of beliefs and, therefore, to accept and practice aspects of religion selectively and arbitrarily. In this regard, a participant mentioned:

*"For example, I pray, but I do not believe in fasting, and I think that once you have humanity, it is quite sufficient."*

### Experiencing oneself with others

This category primarily focuses on participants' interactions, family relationships, and friendships. These people tend to be social people who have a wide range of interactions and socialize easily with different people, although the relationships are often superficial and remain only at the level of companionship for fun. Nevertheless, the home environment is replete with emotional attention and love for them; they have a lot

of emotional attachment with the family; they easily express their feelings to their parents; and the parents listen to what they say without any judgment. For them, independence, interaction with society and interaction with opposite sex tend to initiate and improve at the university. A participant explained:

*“My social relationships are high. I have many friends of all ages. I am good at speaking. I am a person who tries to communicate by speaking with people, even if it is a superficial interaction, and I like to have acquaintances everywhere.”*

### My life's address

Living at different periods with different technological advances leads to dissimilar lifestyles that people may have. Lifestyle can involve issues including one's socio-political perspective to one's view of marriage. This category also entails the entertainment people choose according to the advancement of technology. This category refers to the participants' lifestyle, entertainment, and outlook on life. Participants pointed out that technology, social networks, and more alternatives for entertainment contributed to a sedentary, nightly lifestyle on their part. They seek diversity, are indifferent to politics, and pursue peace and tranquility. They have an artistic spirit and are interested in life and nature tourism. A participant commented:

*“Just as our parents are different from us, their worldview and lifestyle are also different from ours. These things change from generation to generation, for example, what makes you happy, what you like, how you see life.”*

### Tunnel vision

This category mirrors the channelized life of these people whose lives are organized only to achieve one goal. As mentioned above, the devoted parents have tried to fulfill all responsibilities, plans, and duties, whereby their children have turned into people whose primary focus is on one dimension of life. In fact, parents assume that they should provide all the conditions required for the children to achieve their goals and aspirations and attain good financial conditions. Hence, parents only expect the children to study. They, too, due to a large number of lessons, their busyness, and encouragement of the parents who take responsibility for all their affairs, attend only to the educational dimension and, subsequently, to the work dimension. In this regard, one participant stated:

*“We are somehow we ourselves; we alone, and medicine, and lessons; I do not mean that there is no recreation or no friend or relationship, but it is such that .... I do not know, such that we do not sense it ....”*

### Evasion from responsibility

Considering the *devoted parents* and the fact that the parents undertake all responsibilities, including planning and goal setting for the children, participants asserted that they had no responsibility in life other than studying. This category reflects the desire of the participants to escape responsibility because they were raised that way with no responsibility other than studying from childhood. This has made these people assume that they are responsible people simply by performing small tasks assigned to them. This category also introduces factors contributing to their responsibility or irresponsibility, assuming that people who live in smaller cities or villages tend to be more responsible because they have been demanded to do more tasks. A participant maintained:

*“Well, we have always been told ‘You, don't do it. We'll do it ourselves’, and everything has been prepared for us. That is how we've been raised and so we are not that responsible.”*

### Fame winning

Because of living in the digital age and using social networks, the participants had a great desire to display the positive aspects of their life and their abilities. Moreover, they attempted to hide the negative dimensions and shortcomings of their life and personality behind magnifications and confined relationships and social networks. Influenced by the pictures and videos from the prosperous and perfect lives of others, they get interested in exposing their lives to others in a luxurious, brand-based, and flawless way in cyberspace. They also seek to gain popularity and follow fashions. They compete with those around them in various fields and try to be superior to them to attract more attention and be seen by others as far as possible. This issue is associated today with the concept of the *follower*, such that a higher number of followers can be indicative of greater success and prestige. It can be maintained that most of these subcategories result from the effects that cyberspace and social networks have on people's personalities. One of the participants narrated:

*“We were in Tehran and wanted to go to the roof of Tehran. Then my cousin said that there was no need to go. ‘I have ready-made photos if you intend to share a post’. I said, ‘Why should I post something?’ She answered, ‘we have photos prepared for different locations and occasions’. You know, these things have values. Let me just post this ready-made photo so people can see I have been to this location once.”*

### I and nothing else

This category is defined with the centrality of “I.” In this category, participants emphasized the importance of they themselves and their desires. For these grown-up

children, whose demands and desires have always been fulfilled and given priority by devoted parents, it is they and their wants that are of higher importance, difference, and more significance than anything else. Indeed, they expect others to serve them. They tend to be utilitarian and demanding individuals and find themselves as respectful people who are like pearls in the shell of the life. They also describe their life as *a bed of roses*, where all the facilities were provided and they were not troubled in essence. In this regard, one participant mentioned:

*"We are living at a time when many people can take advantage of you, for example, in the classroom and other situations. But I'm not someone to let them tell me everything they want, someone who always comes off his/her wishes, and that on the excuse that you are not kind."*

## Discussion

This study aimed to determine the generation-dependent non-educational traits of general medicine students, as manifested in the categories emerging from their statements. The 10 categories obtained from the study included devoted parents, money as the key reference of value, non-sexism, religious perplexity, experiencing oneself with others, my life's address, tunnel vision, evasion from responsibility, winning fame, and I and nothing else.

The characteristics of this generation, similar to those of any other generation, are shaped by socioeconomic conditions, scientific advances, and important historical events occurring in their own time or that of their parents. As shown in Appendix 1, the parents of these people are educated parents who tend to study for parenting before and during birth and try to raise their children with maximum attention, time, and energy. Having experienced substantial economic, welfare, and psychological hardships during the 8 years of the imposed Iran–Iraq war and the Islamic Revolution, these parents are now attempting to make up for their children in compensation for the shortcomings, pressures, and stresses they have endured themselves, so as to prevent such experiences for their offspring. This has led them to attempt to understand their children, to provide everything for them, to ask for their opinions, and to conform to their views. These issues have made them "devoted parents," who have dedicated themselves to their children and their well-being. This finding is consistent with the results from Bradley-Geist and Olson-Buchanan's study, which examined the outcomes of helicopter parenting as regards college students' academic experiences and workplace expectations.

Bradley-Geist and Olson-Buchanan conducted an online survey with 482 undergraduate students. The

survey included questions about parenting behaviors, personality, demographic characteristics, and workplace scenarios. The results showed that helicopter parents, who hover over their offspring, similar to a helicopter, to provide whatever they need, may go so far as to exempt their children from even assuming responsibility for their own decisions.<sup>[18]</sup> Parents' assumption of all the work, non-assignment of responsibility to children from childhood, and the availability of parents at their disposal for the smallest tasks and decisions have made it difficult for them to accept responsibility, to the point that they may even "escape responsibility." It is because nurturing the sense of responsibility in someone can be achieved by delegating responsibility to him/her. Such parents go so far as to provide all the demands and requirements of their children, both material and spiritual, and have only one expectation from them – to study. The majority of the participants in this study used to be school students whose sole responsibility had been to study. The same continued in the university, where the increased volume of courses and the number of shifts have caused learners to focus only on the educational dimension and subsequently on their occupational dimension, making them one-dimensional people with a "tunnel vision."

The parents of these people, as mentioned above, are educated people who have high regard for their children's opinions and give them substantial freedom in action and selection. This has given their daughters more freedom of action to participate in society, and their offspring to act more freely in relationships with the opposite gender from an early age. These people consider interaction with members of the opposite gender as a contributing factor to the development and promotion of society. Moreover, compared to the previous generation, these interactions have become more normal for them, so that they see everyone as humans and, thus, have a so-called "gender-free" view of people. In this regard, the role of cyberspace should not be undermined, which has placed views of human beings beyond the gender stereotypes by increasing awareness and normalizing the relationship between girls and boys. These findings are not in line with the results of Ruspini's study. Aiming to investigate selected aspects of the relationship between generational turnover and gender equality in millennials, Ruspini obtained contradictory results. On the one hand, this study showed that millennial men and women challenge traditional roles. On the other hand, unexpectedly, the millennial generation has fewer egalitarian characteristics compared to previous generations.<sup>[19]</sup>

The educated and rational parents, who are used to discussing issues with their children with logical reasoning and giving them the freedom to choose, have

paved the ground for them to choose their religion freely. The participants' own curiosity and exploration of the truth about religion. Their friends along with scientific advances have made them hesitant and skeptical about their religious beliefs, and cause them a "religious perplexity". As such, they have abandoned traditional religious beliefs and principles and replaced them with humanity. These results are compatible with findings from Fosse's study of the American people. Incorporating nearly 100,000 people through structured and face-to-face interviews, the study documented a statistically significant generational shift in party affiliation, religious identity, and economic values and beliefs. Concerning religion, the researcher found that roughly one-third of millennials do not identify with any religious group or sect, with this change of opinion resulting from the advancement of science and technology.<sup>[20]</sup>

Moreover, the fact that parents highly respect their children from birth, the facilities provided for them since their early days, and the inculcation that they are special have made this generation egocentric. Thus, they may think that nothing matters more than they do, and they always prioritize their demands over those of others. Hence, they begin to believe in the phrase "I and nothing else." They see themselves as a pearl in a shell, as individuals of higher talent than others. In their friendships, they seek profit and intend to gain scores in their relationship with others. Conversely, they do not trouble themselves for others because they take it for granted that nothing bears more importance than them, their peace, and comfort. This finding is consistent with those of Twenge's study. The study entitled "The evidence for generation me and against generation we" found that millennials are more of generation *me* than generation *we*. The data show an increase in the narcissism of millennials. The samples selected from high school and university students reveal that their values have changed from intrinsic ones (community, affiliation) to extrinsic ones (money, fame, and image). These tendencies often lead to negative consequences such as lower levels of empathy, reduced concern for others, and decreased civic engagement (such as interest in social, governmental, and political issues). To compensate for these, teachers and parents need to educate the values of hard work and direct attention to others and empathy, instead of an increased sense of self.<sup>[21]</sup>

As mentioned earlier, each generation is shaped under different conditions. This generation is not only influenced by their parents, but also affected by sanctions, economic pressures, technology, and cyberspace, with which they have grown up since childhood. Sanctions, unemployment, and economic pressures in recent years have made money play a more prominent role in the

lives of these individuals and the community at large, guiding many of the millennials' decisions. One of these decisions concerns occupation and the academic field of study. Since "money is the key reference of value" for a majority of goals and decisions, they often favor the financial security and income associated with medicine to intrinsic interest in this field. These results do not align with those of a study by Buzza. To understand the millennial generation better, Buzza surveyed a sample of millennials on the threshold of entering the labor market. Participants included 95 male and 71 female college students enrolled in business classes at a medium-sized private university. The participants were asked to read a job advertisement with varied conditions and to rate their attractiveness according to the position. The results showed that they were more inclined to a situation where there was a high degree of balance between work and personal life. The study showed that for the millennial generation, money is less important than the work-life balance.<sup>[22]</sup>

Among millennials, emphasis on financial issues can also be prompted by cyberspace, where many people show off the happier side of their lives in a competitive climate, leading to an overwhelming desire for materialism in this generation. This, together with a desire to win popularity and belief in being superior, originating from their parents' praise and nurturing in ease, gradually leads to an eagerness to show off their beauties, their materialism, and their luxurious life. In a word, they will be inclined to magnify the positive points of their life in cyberspace and begin to show their private life to "win fame." This goes to the point that they may compete with each other, and these shows may happen to be different from their real selves. They wear masks in cyberspace, hide their deficiencies and the negative points of their lives, and display their faces with filters. Many of them tend to forget and dislike their unfiltered faces, and their perception of their face is their filtered face. To show off their affluence, they also turn to fashionism, consumption of branded goods, and eating in expensive restaurants, which, however, poses them prone to higher levels of mental tension. This result is consistent with that of a study by Stapleton *et al.* The authors of this review study entitled "The role of social comparison in use of Instagram among emerging adults" say that the more participants use Facebook, the more they engage in social comparisons. In social comparison, people become aware of themselves by comparing themselves to others. Instagram allows its users to express themselves in a desired manner that shows their ideal self with a focus on their intended features. The authors discuss that people in cyberspace find other users' lives happier and more successful than themselves, which can be an opportunity for social comparison and harm their self-esteem. It also makes them seek the approval of others.<sup>[23]</sup>

Similarly, the impact of cyberspace can be seen in the “My life’s address” category. These people have suffered from a kind of monotony and sedentary lifestyle owing to living in the age of technology and its widespread use in facilitating and accelerating affairs, as everything is easily accessible to them. Technology, computer games, and cyberspace have even replaced games and sports in their spare time. On the other hand, their sleep and waking times have changed so remarkably that they can often be considered as night owls who spend the night up late. This finding is consistent with the results of the study by Patalay and Gage, who aimed to explore the trends in mental health problems and health-related behaviors in two cohorts of 14-year-old UK adolescents in 2005 and 2015. The first cohort members were born in 1991–1992 and the second in 2000–2002. They found that adolescents in 2015 were spending less time sleeping compared to their 2005 counterparts. More specifically, they showed that adolescents in 2015 go to bed later and wake up earlier, and therefore have less sleep.<sup>[24]</sup>

### Limitation and recommendation

In the qualitative phase, there was a possibility that the interviewers’ opinions influence the participants’, but the attempt was to dedicate the researchers’ presence in this section to asking questions and clarifying for the participants and to refrain from presenting their views. Presenting the educational characteristics of the current generation of MD students can lead to extraction of valuable results, so that those involved in the education system can use them to improve the quality of education in the higher education system.

### Conclusion

The present qualitative study provides a better insight into the characteristics of learners by incorporating participants from both genders, native and non-native residents, and students of varying ages, semesters, and geographic locations. Learners seem to have a strong tendency to base their life on materialism. For them, gender and religion have lost their former meaning and they believe in more freedom. They are also one-dimensional, lethargic, and evening people, who evade responsibility and have a strong desire to be seen, approved, and respected. They also prioritize themselves and their peace of mind. Since these characteristics can have many direct and indirect effects on various aspects of their lives, including the educational aspect, it can be highly beneficial for people interacting with them to identify and consider these characteristics.

### Ethical code number

This study is a product of the project registered by Isfahan Medical Education Research Center, No. 396349.

### Acknowledgements

The researchers would like to express their gratitude to the participants and the Isfahan Medical Education Research Center and the National Agency for Strategic Research in Medical Education, Tehran, Iran, for providing financial support for this study.

### Financial support and sponsorship

This study was funded by the National Agency for Strategic Research in Medical Education, Tehran, Iran (Grant No. 970557) and was part of a project conducted at Isfahan University of Medical Sciences in Iran with the ethics code IR.MUI.REC.396349.

### Conflicts of interest

There are no conflicts of interest.

### References

1. Evans KH, Ozdalga E, Ahuja N. The medical education of generation Y. *Acad Psychiatry* 2016;40:382-5.
2. Walsh DS. Mind the gap: Generational differences in medicine. *Northeast Florida Med* 2011;62:12-5.
3. Monaco M, Martin M. The millennial student: A new generation of learners. *Athl Train Educ J* 2007;2:42-6.
4. Johnson SA, Romanello ML. Generational diversity: Teaching and learning approaches. *Nurse Educ* 2005;30:212-6.
5. Bickel J, Brown AJ. Generation X: Implications for faculty recruitment and development in academic health centers. *Acad Med* 2005;80:205-10.
6. Howell LP, Servis G, Bonham A. Multigenerational challenges in academic medicine: UC Davis’s responses. *Acad Med* 2005;80:527-32.
7. Borges NJ, Manuel RS, Elam CL, Jones BJ. Differences in motives between millennial and generation X medical students. *Med Educ* 2010;44:570-6.
8. Jonas-Dwyer D, Pospisil R. The Millennial effect: Implications for academic development. Available from: <https://www.herdsa.org.au/publications/conference-proceedings/research-and-development-higher-education-transforming-18.pdf>. [Last accessed on 2022 Jul 23].
9. Lancaster LC, Stillman D. *When Generations Collide: Who They Are, Why They Clash, How to Solve the Generational Puzzle at Work*. New York: HarperCollins; 2002.
10. McCrindle Research. *New Generations at Work: Attracting, Recruiting, Retraining and Training Generation Y*. Sydney, Australia: McCrindle Research; 2006. Available from: [www.tanz.ac.nz/pdf/NewGenerationsAtWork.pdf](http://www.tanz.ac.nz/pdf/NewGenerationsAtWork.pdf).
11. Hopkins L, Hampton BS, Abbott JF, Buery-Joyner SD, Craig LB, Dalrymple JL, *et al.* To the point: Medical education, technology, and the millennial learner. *Am J Obstet Gynecol* 2018;218:188-92.
12. Borges NJ, Manuel RS, Elam CL, Jones BJ. Comparing millennial and generation X medical students of one medical school. *Acad Med* 2006;81:571-6.
13. Eckleberry Hunt J, Tucciarone J. The challenges and opportunities of teaching “generation Y”. *J Grad Med Educ* 2011;3:458-61.
14. Black A. Gen Y: Who they are and how they learn. *Educ Horiz* 2010;88:92-101.
15. Mill JE. Describing an exploratory model of HIV illness among aboriginal women. *Holist Nurs Pract* 2000;15:42-58.
16. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today* 2004;24:105-12.

17. Strubert Speziale HY, Alen J, Carpenter DR. *Qualitative Research in Nursing*. 3<sup>rd</sup> ed. Philadelphia: Williams & Wilkings; 2003.
18. Olson-Buchanan J. Helicopter parents: An examination of the correlates of over-parenting of college students. *Educ Train* 2014;56:314-28.
19. Ruspini E. Millennial men, gender equality and care: The dawn of a revolution? *Teorija Praksa* 2019;56:985-1000
20. Fosse, Ethan. 2015. *Cultural Continuity and the Rise of the Millennials: Generational Trends in Politics, Religion, and Economic Values*. Doctoral dissertation, Harvard University, Graduate School of Arts & Sciences.
21. Twenge JM. The evidence for generation me and against generation we. *Emerg Adulthood* 2013;1:11-6.
22. Buzza JS. Are you living to work or working to live? What millennials want in the workplace. *J Hum Resour Manag Labor Stud* 2017;5:15-20.
23. Stapleton P, Luiz G, Chatwin H. Generation validation: The role of social comparison in use of Instagram among emerging adults. *Cyberpsychol Behav Soc Netw* 2017;20:142-9.
24. Patalay P, Gage SH. Changes in millennial adolescent mental health and health-related behaviours over 10 years: A population cohort comparison study. *Int J Epidemiol* 2019;48:1650-64.



## Appendix

**Table 1: Categories and subcategories**

Subcategories	Category
Suffered parents	Devoted parents
Democratic parents	
Parents dedicating themselves to children	
Good parenting conditions	
"Wax" parents	
Money as my goal	Money as the key reference of value
Ties between medicine and money	
Seeing humans beyond gender	Non-sexism
The asexual perspective as the driver of progress	
Build relationships without gender-oriented perspective	
Metamorphosis of women	
Patriarchal society	
The weakness of religious beliefs	Religious perplexity
A different vision to religion	
Religion - a closed framework	
Friend, my good umbrella	Experiencing oneself with others
Interaction as the basis of life skills	
The weakness of friendship ties	
Sociability	
Home of kindness	
My metamorphosis at university	
Nightlife	My life's address
Lack of inclination to politics	
I love life	
Personal life, my priority	
Gold of time auction	
Diversity seeking	
Postponement of marriage	
Physically resident; virtually moving	
Peaceful life	
Enclosed in a medical dome	Tunnel vision
Alone I	
The pathology of my responsibility	Evasion from responsibility
The illusion of responsibility	
The irresponsible I	
Showcase life	Fame winning
Fashionism	
Mask life	
Luxury life	
Luxury-oriented competition	
Medicine, a mirror for me to glow	
In search of popularity	
Competition theme	
I and nothing else	I and nothing else
My distinctive desires	
Utilitarian	
My long-lasting effect	
Pearl in shell	
The respectable I	
Born with a silver spoon in mouth	
Demander I	