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Kinga Wilczyńska

Faculty of Management,
University of Warsaw, Poland
kingawil@me.com

Grażyna Wieczorkowska

Faculty of Management,
University of Warsaw, Poland
wierzbinska@wz.uw.edu.pl
ORCID ID: 0000-0002-3307-1679

Generational Differences in the Labour Market – Three Confounded Effects

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ABSTRACT

Objective: Many research claim that Millennials value work ethic much lower and leisure time much higher than older generations. Most of them are based on cross-sectional analyses of data collected at one time. This design confounds the COHORT effect (born in the same time period and thus exposed to the same cultural forces during their formative socialization period) and biological AGE, and it makes it impossible to separate them. Our goal is to demonstrate how to empirically separate the confounded effects of APC (biological AGE – PERIOD of measurement – COHORT) in a simple way.

Methodology: Three generations (Baby Boomers, X-ers and Millennials) from the representative Polish samples of the World Value Survey, were cross-sectionally compared, and a cross-lagged comparison was made between BB in 2005 vs X in 2020, and between X in 2005 and Millennials in 2020.

Findings: It was shown that significant cross-sectional differences in attitudes toward work between the 3 generation (with the highest score for Baby Boomers and the lowest for Millennials) cannot be explained by age differences. Over the period of 15 years, the importance of leisure time has increased for all generations (PERIOD effect).

Value Added: The paper highlights significant methodological problem: the confounding effect of APC in most generational findings. It promotes the idea of using nationally representative samples from publicly available data like World Value Survey, instead of collecting convenience samples.

Recommendations: Greater methodological rigour in generational studies is recommended, as their results can create/support stereotypes that tend to generate individual expectations (e.g. every Millennial is computer literate or lazy), ignoring the fact that intra-generational variability is very high.

Key words: World Value Survey, generational differences, confounded effects of age, period and cohort, multigenerational management, generational studies

JEL codes: C18, D64, E24, J53, J62, M12

Introduction

The Internet revolution, which has taken place on an almost global scale (cell phones with Internet access have reached the farthest reaches of the world), has dramatically changed the relationship between generations. Millennials (Generation Y representatives) are the first cohort that does not need the

intermediation of elders to access information. The times when the young learned primarily from their elders are gone forever. Situations in workplaces where elders were considered an indispensable source of knowledge for young and inexperienced workers are a thing of the past.

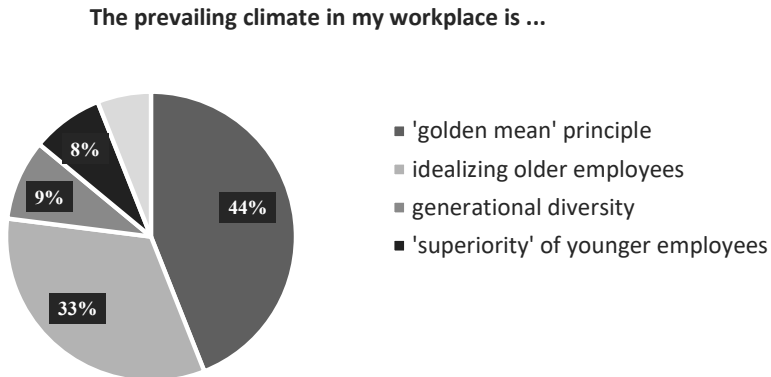
Before the Internet era, the experiences of the succeeding generations were similar. In the Internet era, the “master-student” relationship is often supplanted by the “Internet-student” relationship. However, this can lead to confusion and information overload with the dynamic growth of the Internet information network (the rate of new content on the Internet is growing exponentially). An important difference in the indicated relationships is that, so far, the master has passed on to the student not only information, but also a value system.

Two conflicting views on intergenerational relations co-occur in the literature. Representatives of one “camp” (e.g. Wątroba, 2017; Moczydłowska, 2020) talk about loosening ties between employees representing different generations who behave like “distinct tribes” speaking different languages and perceiving reality differently. On the other hand, attention is drawn also to the fact (Wiczorkowska, 2022) that the globalization of media coverage (e.g. the same news services and series broadcasted around the world) is causing the elderly to be exposed to youthful language, style of dress, etc. to an unprecedented degree, leading to the blurring of not only cultural, but also intergenerational differences.

A survey of managers conducted in Poland (Moczydłowska, 2018) showed the diversity of the intergenerational climate in Polish companies (see Figure 1). Managers were asked to choose 1 of 4 descriptions (see below) that best characterized the situation in their workplace: (1) There is a prevailing belief that the extensive work and life experience typical of older workers is most valuable. There is a **climate of idealizing older employees** while depreciating the position and achievements of the younger. The principle of “know your place” is applied to the young. (2) There is a prevailing belief that the most valuable thing is energy and openness to novelty and constant change – typical for the youngest employees. There is a pervasive **climate of “superiority” of younger employees**. Behaviours bordering on discrimination against older workers based on their age are accepted. Attitudes towards elders are set by the “you do not know, your time is up” philosophy. (3) The principle that

everyone, regardless of their age, brings something valuable to the company is promoted, i.e. **“the golden mean” principle** prevails, where acceptable for employees of different ages norms and values are sought. (4) Diversity is promoted, including **generational diversity** as a value. Emphasis is placed on getting to know each other’s different age groups in a spirit of acceptance, respect and trust. The philosophy of “we are all responsible for the performance of our organization, we all learn from each other’ is applied.” (5) There was also an option “None of the above descriptions characterize my workplace well.”

Figure 1. Diversity of intergenerational climate



Source: Own study based on the results of a survey of managers by Moczydłowska (2018, p. 170). The percentages in the figure have been rounded to whole numbers.

Although in surveys conducted by commercial research agencies, generational diversity tops the list of current trends and challenges in people management practices, only 9% of managers in the study mentioned above indicated a (prevailing in their workplace) climate of generational diversity. Most of the managers surveyed chose “the golden mean” principle as a dominant one. This research also showed that the assessment of organizational climate depends on the age of respondents. The BB Generation was more likely to notice signs of paedocracy (power in the hands of the young and inexperienced) in their organizations. The “online generations” (Generation Y and younger) were

significantly more likely to rate their company's organizational culture as typical of a gerontocracy (power in the hands of the elderly).

Population aging (Kurek, 2008) through reduced fertility rate, migrations, good health and increasing life expectancy, allows retirees to stay active in the labour market longer (Moczydłowska, 2018). Therefore, many companies face the challenge of having a **multi-generational workforce** that must be led and managed to create high-performance teams. Age diversity in workplaces is steadily growing, thus increasing the likelihood that a team leader will be younger than its members.

More than half of organizations with 500 or more employees have reported conflicts between younger and older workers (Burke, 2005; Cogin, 2012). Younger employees often do not understand the problems of older ones; they are unfamiliar with the so-called work ethos, which loses out to the desire to maintain a work-life balance; they sometimes lack patience in dealing with each other, impose their own speed of work and want to change the established order of things at all costs. Older employees with many years of experience, both specific – in performing particular tasks, and non-specific – e.g. in dealing with emotions at work, resolving conflicts, differ from younger ones even if they have identical education and professional qualifications.

The number of publications dedicated to generational diversity in organizations is growing. In one year alone (2021), in the Google Scholar database, the phrase “**generational diversity**” in the title or keywords of publications occurred more than 600 times. The attention of researchers focuses primarily on the specifics of each generation, their similarities and differences in behaviour in the work environment.

Stereotypical perceptions of representatives of different generations, building multi-generational teams, professional mobility and career paths of people of different ages are also among the most frequently discussed topics. Tools for managing generational diversity and good practices for its use are also being searched for.

Despite the rich literature on the subject, due to the high contextualization of the social sciences, it is difficult to consider the problem of generational differences as solved. The topic of generations is so popular because age, like gender

and race, is among the automatically decoded surface traits (Van Vianen, Shen, & Chuang, 2011), which are an “invitation” to create group stereotypes – simplified judgments about groups/categories of people. Among them, a distinction can be made between **positive** stereotypes, concerning desirable traits (e.g. strong man, dedicated woman, computer-savvy Millennials) and **negative** stereotypes, concerning undesirable traits (e.g. domineering man, dependent woman, lazy Millennials). It can be ventured to say that almost everyone has a latent (and therefore often non-verbalized) theories about generational differences. The second reason for the popularity of generational studies is the ease of operationalizing age.

Unfortunately, the results lead to different conclusions. Some studies show generational differences (D’Amato & Herzfeldt, 2008; Twenge, 2017), while others show very weak or no correlation (Costanza et al., 2012; Trzesniewski & Donnellan, 2010). But do not such easily generated research reports on generational differences create grounds for stereotyping employees?

The purpose of this article is to empirically disentangle the confounded effects in analyses of the importance of work in an employee’s life based on data collected in the 2005 and 2020 World Value Survey¹.

The concept of generation

Socialization – a lifelong process of learning (Szacka, 2003) – is what makes us human (Aronson & Aronson, 2020). Primary socialization in the family home loses its dominant role in personality formation during early adolescence, when personality formation begins (Wiczorkowska, 2022). In secondary socialization, which lasts a lifetime, we distinguish a formative period, in which socialization learning is extremely rapid and sustained. This period of privileged formative

1 The World Values Survey (WVS) is a global research project that explores people’s values and beliefs, how they change over time, and what social and political impact they have. Since 1981 a worldwide network of social scientists have conducted representative national surveys as part of WVS in almost 100 countries.

socialization falls approximately between the ages of 16 and 25. During this period of life, the socioeconomic and cultural environment makes a stronger imprint by facilitating the internalization of beliefs, values, attitudes and expectations, which can influence behaviour (also in the workplace) (Inglehart, 1997; Glass, 2007). It is assumed that attitudes and behaviours formed during the formative years of socialization remain constant as the years pass (Inglehart, 1997; Smith & Clurman, 1997).

The term “generation” is defined in many ways, which more or less emphasize the commonality of landmark generational experiences (Edmunds & Turner, 2005; Jurkiewicz & Brown, 1998; Kiely, 1997; Kupperschmidt, 2000; Smola & Sutton, 2002) such as World War II, the sexual revolution, the fall of the Berlin Wall, the 9/11 WTC attack, the spread of the Internet and the COVID-19 pandemic.

Only one of these events, the **origin of the Internet**, is universal alike to Poland, the United States and any other corner of the world (where the Internet has appeared), so it is the Internet that is the important cut-off point between the older generations (which can be described here as **pre-internet**) and the younger generations (**post-internet**).

For Poland, 1991 can be considered the beginning of the Internet, and it can be assumed that Generation Y is the first to have had worse or better access to the network during the formative socialization period.

The terms **generation**, **birth cohort**, **age group** are not synonymous, but they are often treated as such. In this article, these terms are used interchangeably in the sense of birth cohort (Mannheim, 1952). In this paper, GENERATIONS denote groups of people born during the same period. The view on the cut-off values separating generations vary from researcher to researcher (Cox, Bachkirova, & Clutterbuck, 2014; Mazur-Wierzbicka, 2016; Nelson, 2012; Wilson et al., 2008; Wojtaszczyk, 2016). The year ranges adopted as the standard in all analyses conducted in the Department of Sociology and Psychology of Management at the University of Warsaw are as follows:

- Baby Boomers (BB) – cohort of workers born between 1946 and 1964.
- Generation X (X) – cohort of employees born between 1965 and 1980.

- Generation Y (Y) / “Millennials” – cohort of employees born between 1981 and 1995.

Generational differences in the workplace have been studied from many different perspectives, e.g. industry, consumer segment, national culture and demographic factors (Carter, 2008; Eisner & Harvey, 2009; Lindquist, 2008), job satisfaction (Kowske, Rasch, & Wiley, 2010), organizational commitment (D’Amato & Herzfeldt, 2008).

When describing generational differences, one operates with the notion of a **collective (prototypical) individual** who was shaped by the prevailing social and cultural conditions during the period of intensive socialization. Attitude preferences formed during the formative period (not only in relation to fashion, music, but also, for example, the role of work in life) turn out to be very durable and can lead to the formation of generational consciousness (Eyerman & Turner, 1998). Theoretical analysis uses Bourdieu’s notion of **habitus** (Bourdieu, 1977), which refers to acquired skills and competencies that take the form of an individual’s enduring dispositions and influence the way a person perceives the world.

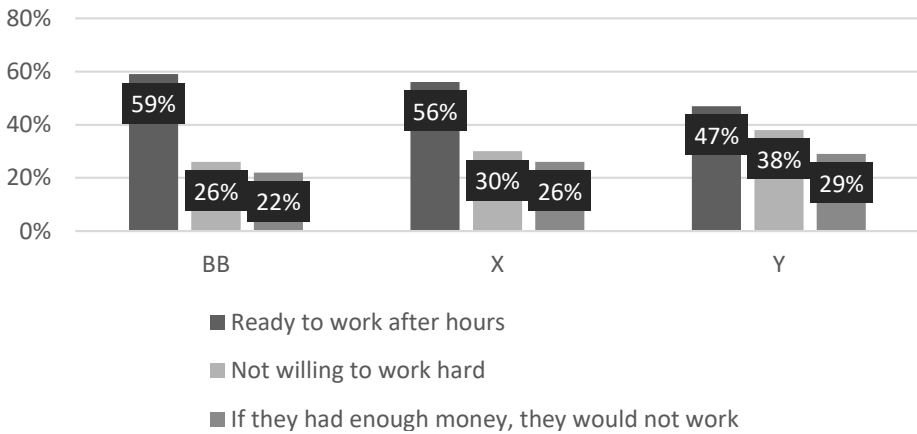
Declining importance of professional work?

A comprehensive review of research on intergenerational differences in attitudes towards work can be found in Kinga Wilczyńska’s doctoral dissertation (Wilczyńska, 2022); here, only 2 sample studies will be presented.

A survey of U.S. high school graduates conducted since 1976 (the “Monitoring the Future” project, which surveyed half a million high school students – the biological age of respondents across generations is therefore constant) has shown generational shifts in responses to questions about work.

Teenage representatives of Generations BB, X and Y respond differently to three questions about attitudes toward work (see the chart below in Figure 2).

Figure 2. Attitudes towards work of American high school graduates



Source: Own study based on Twenge, 2016.

A 2018 U.S. study compared the degree of agreement on the value of work (Twenge, Campbell, & Freeman, 2012). “1” indicates the highest value acceptance, “2” the average, and “3” the lowest one.

Table 1. Acceptance of the value of work among representatives of the three generations

	BB	X	Y
Work as a value in human life	1	2	3
Ethics of work	1	2	3
Importance of leisure time	3	2	1
Individualism	3	2	1
Role of extrinsic motivation	3	1	2
Willingness to leave the organization in the absence of satisfaction	3	1	2

Source: Own study based on Twenge, Campbell, & Freeman, 2012; Moczyłowska, 2020.

Most likely, it is the work ethic that is the main difference between younger and older workers. Representatives of Generation BB find it difficult to accept what the younger generation suggests about work, methods, working hours, regulations and rules. Moreover, the younger generations always want to

balance their personal lives and work, but representatives of Generation BB sees this as a sign of a lack of work ethic. Representatives of these generations react differently to guidelines, restrictions and technology, and they are driven by different rewards (Gravett & Throckmorton, 2007).

Methodological problems in the study of generational differences

The division of a continuous variable such as age into nominal categories comes at the expense of both theoretical precision (as arbitrary age limits are imposed inconsistently across studies), and statistical inference (MacCallum et al., 2015; Twenge & Campbell, 2008; Twenge et al., 2010). It is worth noting that the ranges are not of the same length: for Generation BB it is 19 years, for Generation X it is 11 years, for Generation Y it is 15 years. Lack of consistency in generation limits (i.e. when they start and end) may limit the comparability of research results (Constanza et al., 2012).

In studies of generation differences, the most common strategy used is cross-sectional design, i.e., generation comparisons at a single point of time (Rudolph, 2015), which makes it impossible to separate the impact of the 3 confounded effects, which is the problem this section will detail.

The confound of the 3 variables, due to its universality, is referred to as **APC**, from **Age-Period-Cohort**. When a layman is asked, for example, what the answers to survey questions about the attractiveness of tattoos depend on, he will easily say that the timing of the survey is important (tattoos are rated better now than 20 years ago) and the age of the respondent (older people rate them worse). This means that even a layman is aware of the presence of the PERIOD effect (the time of the conducting survey) and the biological AGE effect. Rarely, however, will anyone point out the COHORT/GENERATION effect, which this article is devoted to.

The differences between APC effects will be shown using the examples:

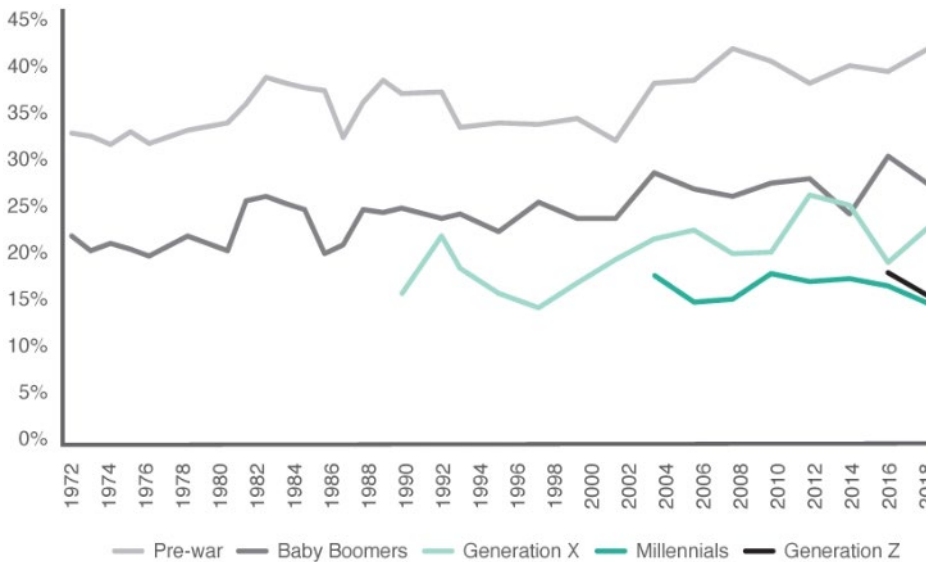
- Changes from 1972 to 2018 in the number of Americans attending services at least once a week.

- Changes from 2010 to 2018 in the number of French people considering terrorism as one of the country's most worrisome problems.
- Changes from 1997 to 2018 in the number of British people considering immigration as the main problem facing the United Kingdom.
- Changes in the number of satisfied Europeans according to their biological age (from 16 to 84).

In the empirical part, the separation of these 3 effects in a survey of attitudes toward work on World Value Survey data in 2005 and 2020 will be presented.

The **COHORT/GENERATION effect** means that the analysed views, preferences, values are shaped most strongly and persistently in youth – In the formative period during secondary socialization (cf. Wiczorkowska, 2022) under the influence of cultural messages and socioeconomic experiences. Internet spread had a different impact on people if it happened during the respondent's formative years (before age 25) vs. later in life. From an analytical point of view, this means reduced variance in the explained variables across generational groups.

An example of a variable that is strongly subject to the COHORT/GENERATION effect can be religiosity operationalized by attending religious services at least once a week. Based on the data in Figure 3, it can be predicted that the percentage of Americans attending services can be determined by generational affiliation.

Figure 3. Percentage of adults in US attending religious services at least weekly

Source: US General Social Survey (1974–2018), after: Duffy 2021b.

The **effect of biological AGE** means that the analysed views, preferences and values are changing with biological age; for example, the desire to seek emotional experience may decrease. An example of a variable that is strongly affected by the age effect is the sense of happiness, which is lowest in the middle phase of life (see Figure 4). The grey line represents averages of life satisfaction according to the age of the respondent. Green are averages adjusted due to other sociodemographic variables.

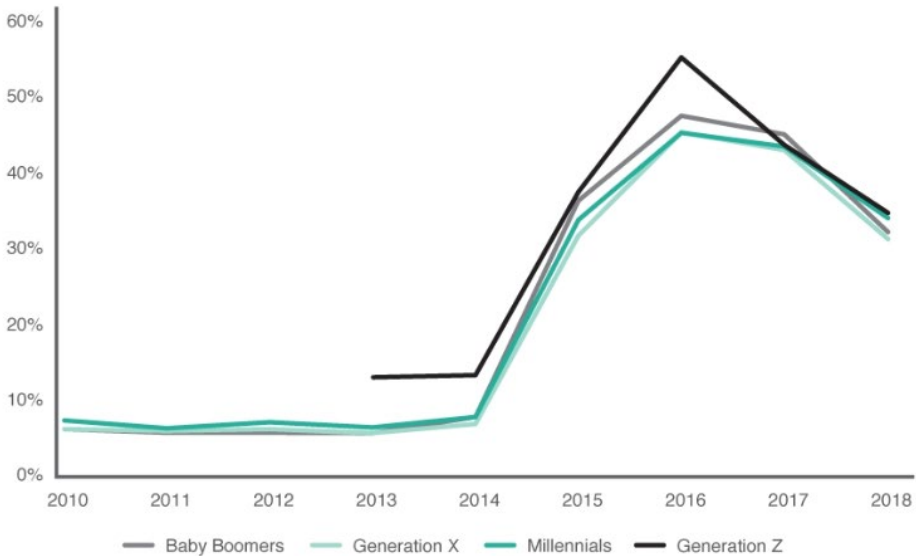
Figure 4. Life satisfaction by age in Europe



Source: Source: Blanchflower reanalysis of Eurobarometer data (2009–19) in Blanchflower, “Is Happiness U-Shaped Everywhere?”, after: Duffy 2021b.

The PERIOD/ERA effect means that the changes being analysed are in response to major events (e.g., pandemic, war, economic crisis, cultural crisis) equally affecting the attitudes, beliefs and behaviours of all generations. An example of a variable that is strongly subject to the PERIOD effect can be the feeling of threat of terrorism. In Figure 5, we see that changes in the percentage of French adult respondents considering terrorism as one of the most important threats do not depend on their generational affiliation, but on the time the survey was conducted.

Figure 5. Percentage of adults in France who say terrorism is one of the most worrying issues in their country



Source: Ipsos What Worries the World survey (2010–18); around 1,000 interviews per month; after: Duffy, 2021b.

An example of a variable that is subject to both the **PERIOD** and **COHORT/GENERATION effect** can be the percentage of people choosing immigration as a major social problem. In Figure 6, it can be seen that the percentage of British people claiming that migration is the main problem facing the United Kingdom, which is explained by generational affiliation and the time of conducting the survey.

Figure 6. Percentage of adults in Britain picking immigration as a top issue faced by the country



Source: Ipsos MORI issues Index (1997–2018), after: Duffy 2021b.

In the examples analysed, the impact of the respondents’ biological AGE could not be easily estimated. The age of the respondent is linearly determined by the information about the year of birth (COHORT/GENERATION) and the year of survey (PERIOD). $AGE = PERIOD [\text{year of survey}] - COHORT/GENERATION [\text{year of birth}]$.

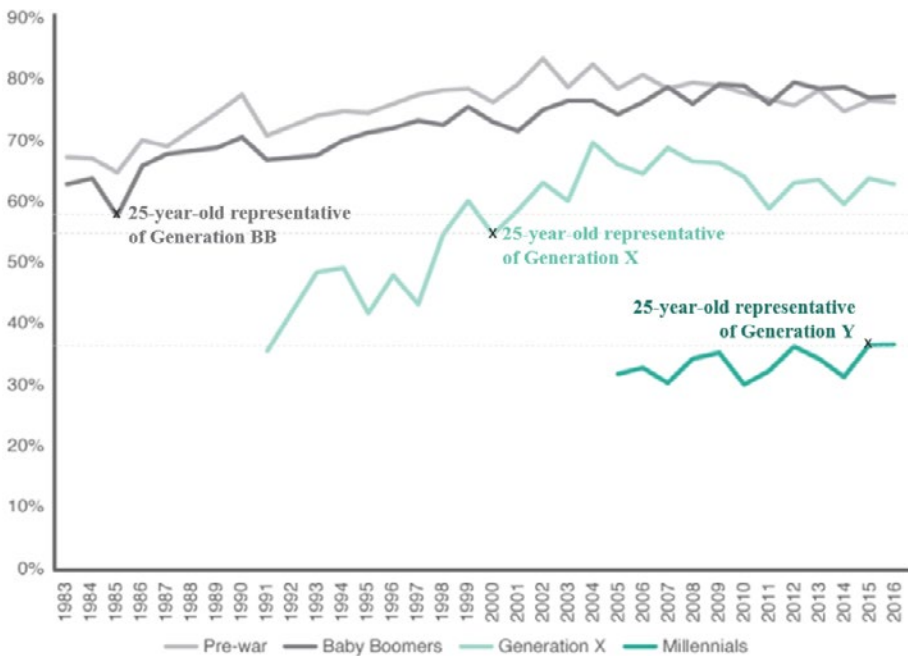
The separation of the influence of biological AGE from the influence of COHORT/GENERATION should be analysed, as it is the most difficult issue using the example of data determining the percentage of British adults owning (including with a mortgage) a home between 1983 and 2017. It is quite obvious that a higher percentage of homeowners will be found among older generations. However, by comparing 25-year-olds belonging to different generations, it is possible to see how likely they are to be homeowners (see Figure 8). A 1960-born representative of Generation BB was 25 years old in 1985, a 1975-born representative of Generation X was 25 years old in 2000, and a 1990-born representative of Generation Y turned 25 in 2005.

A comparison of the percentages on the OY axis for these 3 points shows that the chances of owning their own home for representatives of Generation

BB and Generation X were similar, and for representatives of Generation Y, or Millennials, they are already significantly lower.

With this simple example, we intended to show how to separate the biological AGE effect from the COHORT effect.

Figure 7. Percentage of adults in the UK who own their own home or have bought one with a mortgage and live independently of their parents



Source: Own study based on British Social Attitudes survey (1983–2017), after: Duffy 2021b.

Longitudinal studies (time-lag studies) are needed to separate these effects. The prototypical example is the aforementioned **Monitoring the Future** study of high school fourth graders conducted since 1976 by the Institute for Social Research at the University of Michigan in Ann Arbor. The respondents compared are ALWAYS the same age so biological AGE cannot be responsible for the differences found.

For example, Generation BB students filling out the survey in 1976 were 17–18 years old, the same age as Generation X students filling out the survey in

1990, or Millennials in 2005, and Generation Z representatives in 2015. Therefore, one can exclude the effect of biological AGE – but this kind of data cannot separate the effect of COHORT/GENERATION (resulting from cultural influences during the formative period of socialization) from the effects of PERIOD (resulting from cultural influences at the time of the survey affecting all generations). From a practical point of view, whether a difference is the result of a COHORT EFFECT or a PERIOD effect is not always of great importance, since in both cases there is a cultural change involved.

When cell phones appeared, people of different ages started using them (the PERIOD effect), but it was teenagers in their formative years who spent more time using something that their parents and older siblings did not use when they were the same age. If we have data **over many years** from **many generations**, then using advanced statistical methods it is possible to separate the effect of biological AGE from the effect of PERIOD and COHORT. A discussion of these methods requires a separate article, but it is worth drawing readers' attention to a very interesting text (Costanza et al. 2017), in which the researchers, using 2 large datasets from (1) nearly 360,000 military personnel surveyed over 19 years and (2) over 55,000 US respondents collected over 38 years, compared 3 advanced analytical methods and found that each yielded slightly different results on generational differences. This shows the relevance of the triangulation of analysis methods advocated by the WiW methodological paradigm.

In the empirical part, an attempt will be made to disentangle the effects of APC² (Age – Period – Cohort) using the example of an analysis of attitudes towards work of three generations in longitudinal surveys in 2005 and 2020.

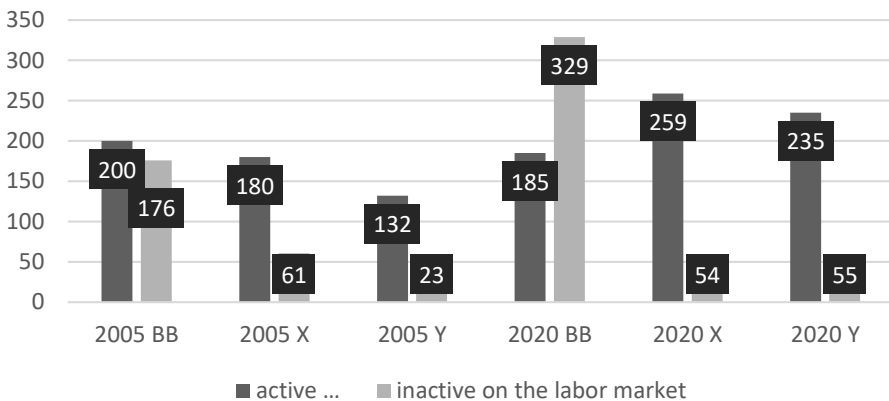
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APC analysis of attitudes towards work

A test of the hypothesis that representatives of Generation Y, as the first online generation, attach less importance to work than their parents (Generation BB) and “older siblings” (Generation X) was carried out using the data from two waves of the World Value Survey from 2005 and 2020 (N=1984). In accordance with the standard, the respondent’s year of birth was recoded into birth cohort.

Figure 8 shows the numbers of workers analysed by survey year (2005, 2020), generation (BB, X, Y) and employment status (1=Inactive/absent on the labour market 2=employed or looking for employment).

Figure 8. Labour activity of respondents by generation and survey year



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

Analyses were performed according to the WiW methodological standard (Wieczorkowska, 2022) for two different operationalizations of attitudes towards work (triangulation of operationalizations). In Analysis 1, the explained variable was attitudes toward work operationalized by responses to 3 questions, from which an indicator was constructed. In Analysis 2, the explained variable was responses to questions about the importance of work and leisure time in an employee’s life.

Analysis scheme

Variables explained:

- Attitude towards work – a synthetic indicator formed from responses to 3 questions (Analysis 1).
- Weight of work and leisure time (Analysis 2).

Predictors:

- GEN3 – Generation: BB, X, Y.
- WAVE – year of research 2005 vs. 2020.

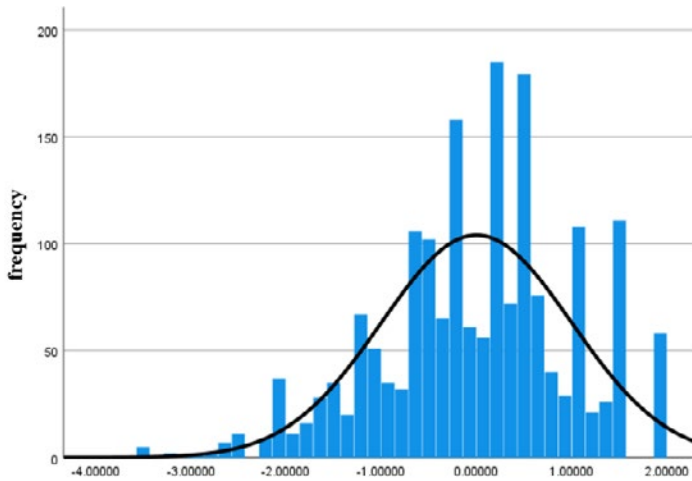
In all analyses, the following were controlled: employment status (employed or looking for employment vs. inactive/absent on the labour market), education in years of study, and gender (binary variable).

Analysis 1: Attitude towards work

The variable explained in Analysis 1 was an indicator built from responses to questions about the degree of agreement with the following 3 statements:

1. people who do not work become lazy;
2. work is a duty towards society;
3. work should always come first even if it means less spare time.

Responses to these 3 questions were highly correlated, allowing the construction of a single indicator, the distribution of which is shown in Figure 9.

Figure 9. Distribution of attitude towards work indicator

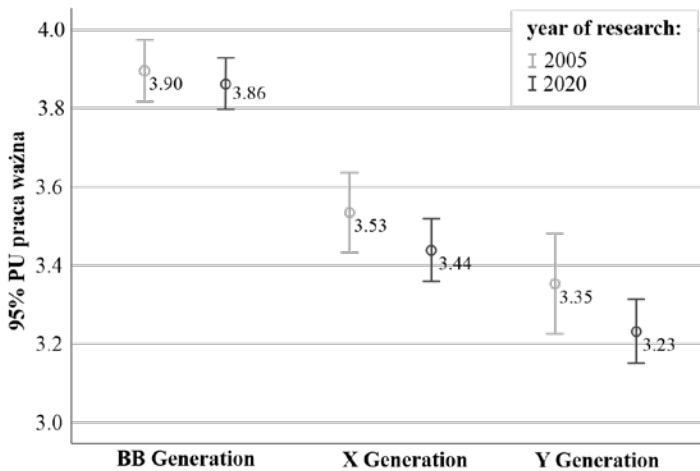
Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

The results of the bivariate analysis of covariance (year of survey, generation) conducted (for all analyses, see Wilczyńska, 2022) showed:

- Significant effect of generation ($F=67.68$ $p<0.001$).
- No significant effect of survey year and its interaction with generation (both $F<1$).

The figure below shows the averages showing that the work attitude indicator has the highest values for Generation BB, significantly lower for Generation X, and significantly lowest for Generation Y. Although the averages in 2020 are lower than in 2005 for all generations, the differences are not statistically significant.

Figure 10. Attitudes towards work by generation and wave of the survey



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

The intergenerational differences shown in the figure above are statistically significant. The only significant covariate was education level – the higher the education level, the more important the job.

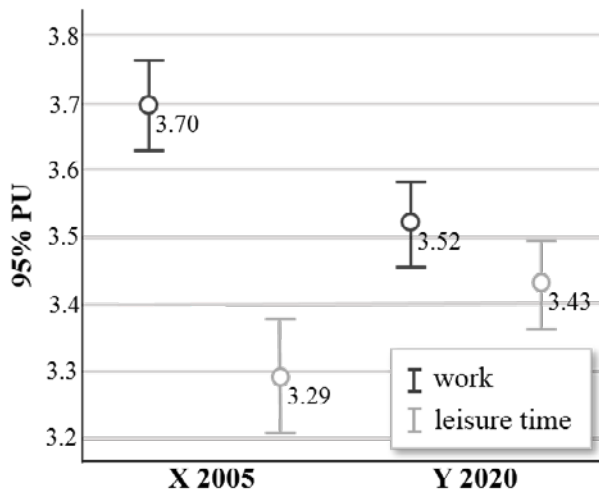
Analysis 2: Importance of work vs. leisure time

The results of the three-factor analysis of covariance (year of survey, generation, importance) with repeated measures on the last factor: importance of work vs. leisure time (see Wilczyńska, 2022, for the entire analysis) showed that:

- The interaction of domain importance and generation, as predicted by the hypothesis, turned out to be statistically **INSIGNIFICANT** ($F=2.0$ $p=0.14$).
- As expected, work was more important for respondents than leisure time ($F=171.3$ $p<0.001$).

- Over the period of 15 years – the importance of work decreased, the importance of leisure time increased ($F=38.41$ $p<0.0001$) – see Figure 9: Weight of work and leisure time by survey wave.

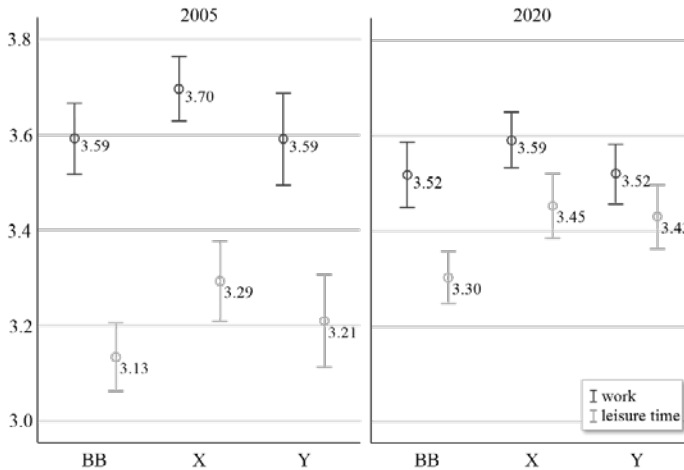
Figure 11. Importance of work and leisure time by survey wave



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

Figure 11 presents the average weights for professional work and leisure time by generation. It is interesting to note the highest value of the work importance for Generation X in 2005 – significantly higher than for Generations BB and Y, which are not significantly different from each other in this regard. It is worth noting as well that the work importance for the BB group has a significantly higher variance than for the X and Y groups. After including employment status in the analyses (Wilczyńska, 2022), it turned out that economically active representatives of the generation BB and X are not significantly different from each other – the difference was generated for those outside the labour market BB and X. Generational differences in work importance disappear in 2020.

Figure 12. Importance of work and leisure time by generation and period (year of survey)



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

In the subsequent step, the hypothesis that the generational differences found are due to differences in biological age was tested.

Separating the effect of biological AGE from the effect of COHORT

To eliminate the effect of a variable means to make the variable constant, e.g. to eliminate the effect of gender means to survey single-gender groups. Therefore, when we want to **eliminate** the influence of the PERIOD effect, the time of the survey should be more or less similar for all respondents. In large surveys, data from the same wave are often collected for several months. When wishing to **examine** the impact of PERIOD (e.g. before and after the pandemic), the survey time must take different values (e.g. until March 2020 – as the time before the pandemic, and from March 2022 – as the time when restrictions were lifted).

With a desire to **eliminate** the influence of biological AGE of respondents from the analyses, we have explored respondents of the same age only (e.g.:

solely high school graduates like Twenge, 2017), or different cohorts at multiple time points, which allows us to compare how these age groups change over time. In contrast, if we want to **examine** the impact of biological AGE, we should survey people of different ages at the same point in time.

Table 2 shows how the age of respondents from each generation changed in 2005 and 2020.

Table 2. Summary of generation and age of respondents from two waves (2005 and 2020) of the World Value Survey

	Born during the years		Biological age during the survey wave	
			2005	2020
BB	1946	1964	41–59	56–74
X	1965	1980	25–40	40–55
Y	1981	1995	<24	25–39

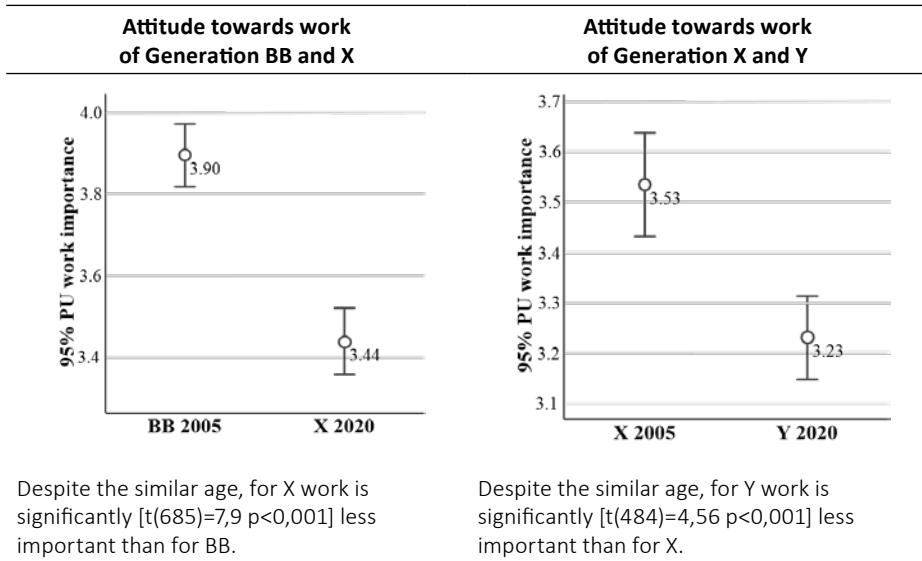
Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

To eliminate the effect of biological AGE, groups of approximately the same age should be compared:

- representatives of Generation BB in 2005 and representatives of Generation X in 2020, since both groups were approximately the same age at the time: 40–59 years old (marked in dark grey in the table above);
- representatives of Generation X in 2005 and representatives of Generation Y in 2020, since both groups were approximately the same age at the time: 25–40 years old (marked in light grey in the table above).

Following the logic outlined above, 6 Student's t-distribution were conducted for independent samples. Comparison of the views of peers from (1) Generations BB and X and (2) Generations X and Y.

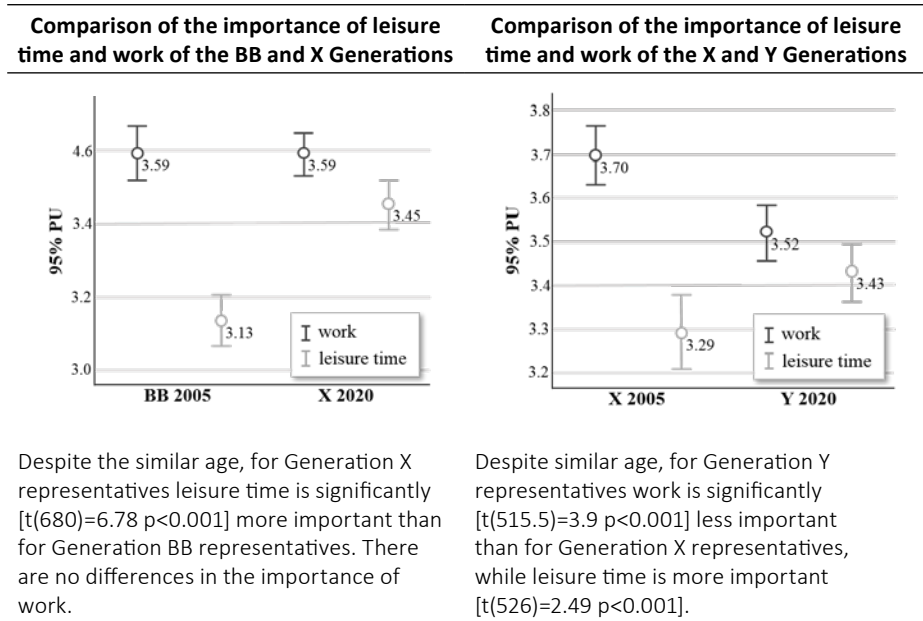
Figure 13. Comparison of attitudes towards work of respondents of the same age, belonging to different generations



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

A comparison of groups aligned by biological age and belonging to different generations showed that the generational differences found in Analysis 1 cannot be explained by the biological age of the respondents. It can be said that attitudes towards work are internalized during the formative period of socialization.

Figure 14. Comparison of the importance of work and leisure time of respondents with the same age, belonging to different generations



Source: Wilczyńska, 2022; based on World Value Survey data from 2005 and 2020.

In order to operationalize Analysis 1, significant generational differences were found between the 3 generations – work is most important for representatives of Generation BB. There were no significant differences between the waves of the survey in 2005 and 2020 (although the demographic structure of the samples changed in the 15-year period between the measurements; in 2020, the number of representatives of Generation Y increased, and the number of economically active representatives of Generation BB decreased). The level of education was a significant positive predictor of job importance, while the gender of the worker was not significant.

The analysis allowed separating the influence of cohort (generation) from the influence of biological age – It showed that it is the cohort and not the age of the worker that influences the importance of work.

According to the WiW methodological paradigm, replication of the same conclusions on different datasets and with different operationalizations (triangulation

of data, operationalizations, modes of analysis) increases the external validity of the conducted studies. The strengths of the analyses conducted also include (1) the representativeness of the samples analysed (which increases external validity); (2) the measurement of the same variables at two time points, which made it possible to separate the influence of cohort/generation from the influence of biological age. Of course, we do not know if the conclusions would be replicated on unavailable units (Jerzyński, 2009) but it is a limitation of any study, as people can be selected yet cannot be forced to participate (Wieczorkowska, 2022).

Summary

We should keep in mind that whenever we talk about the characteristics of entire generations these are group stereotypes and as such, even if they are true (e.g. men are taller than women), they are *always* dangerous when they generate individual expectations (every man must be tall). Generational thinking assigns an employee quite arbitrarily to certain generational groups based solely on the year of birth, and thus creates artificial boundaries between people born at almost the same time, e.g. an employee born in 1979 is classified as a representative of Generation X, an employee born in 1981 as a representative of Generation Y (Baltes, 1987).

The danger of generational analysis³ consists in overlooking the socio-economic status of the family as a determinant of beliefs, attitudes and experiences. Millennials born in a family of State Agricultural Farms workers⁴ who bankrupted during the systemic change had completely different life chances than Millennials born in the same year in Warsaw, in a family of the business elite. In the analyses, the prototypical representative of Millennials is the latter and not the former one. Similarly, the prototypical representative of Generation

3 As Mannheim pointed out.

4 The liquidation of the large socialist State Agricultural Farms (PGRs) in 1993 left hundreds of thousands of workers in a very difficult situation.

Z is an elite high school student with a high pocket money and an Instagram account, not a peer who, in addition to the studies, spends all free time working on the family farm. It is economic circumstances that largely determine⁵ the timing of entry into adulthood.

It would be tempting to say that all stereotypes (whether positive, negative or neutral) about generations should be discarded; actually, they should rather be brought into the light (withdrawing them from consciousness as politically incorrect would not guarantee that they would stop being applied).

We cannot change employees' life experiences and group stereotypes. However, it is necessary to emphasize their statistical nature and the harm of using them to generate individual expectations. Despite the statistically significant – also described in this publication – generational differences, it should be remembered all the time that intra-generational variability is very high. Moreover, as the research described in Wilczyńska's dissertation shows, generational differences in declarations of work values disappear when employee behaviour (declared commitment, job satisfaction) is measured.

Theoretically, from the HR point of view, it does not matter whether the differences found between young and older employees are due to cultural and economic peculiarities of the time of their intensive socialization or their biological age. If it is necessary to use different motivators for younger and older, it does not matter what these differences are caused by. However, due to the universal (i.e. affecting everyone) and unknowingly applied projection mechanism (Wiczorkowska, 2022), which in the case of older HR employees is to think “me at their age”, which is admittedly an attempt to take into account the effect of biological age, but without taking into account the impact of generational differences. It can be a mistake for business leaders and managers to adopt a leadership style appropriate to their generation without reflecting on how to lead multi-generational teams, which already include the youngest and least cognizant representatives of Generation Z entering the job market just now.

5 As Duffy shows.

As emphasized many times, the impacts of age, cohort (generation) and period (era) are inherently intertwined (“confounded”) and these elements are very difficult to separate. According to some researchers (Rudolph & Zacher, 2017), it is reasonable to analyse these influences only at the individual level of analysis, rather than as a manifestation of common generational effects. According to the general development model (Schaie, 1986), cohort effects should be operationalized as inter-individual differences, while period/era effects should be defined in terms of intra-individual changes.

In addition, it is important to adopt the principles of lifelong development in designing age-sensitive work processes, interventions and policies that do not rely on generations as a way of representing age.

Both researchers and practitioners should take action to avoid the pitfalls of “generational thinking”, which comes with many risks (Rauvola et al., 2019; Rudolph, Rauvola, & Zacher, 2018; Zacher, 2020).

A more profound analysis of generational differences is presented in Kinga Wilczyńska’s doctoral dissertation; in this paper, due to the lack of space, it can only be noted that the widespread complaints of Generation X representatives about “Millennials” (Generation Y) that they do not want to work after hours have not been confirmed by the results of the study.

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