Gen Z during the COVID-19 crisis: a comparative analysis of the differences between Gen Z and Gen X in resilience, values and attitudes

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Abstract

In the current study we seek to examine the difference between Generation Z and Generation X in terms of coping with a global crisis (COVID-19), specifically regarding resilience in times of crisis, personal values and attitudes during that time. Based on the theory of generations, we aimed to explore whether different generations have different levels of resilience, values and attitudes during the global crisis. Data were gathered in a cross-sectional study; 958 participants participated, divided into two age-groups: 508 participants of Generation Z (ages ranged between 18–24; 53.9% males [Age: $M = 21.05$, $SD = 1.96$]; 46.1% females [Age: $M = 21.14$, $SD = 1.83$]), and 205 participants of Generation X (ages ranged between 40–50; 54.2% males [Age: $M = 45.16$, $SD = 3.15$]; 45.8% females [Age: $M = 45.23$, $SD = 3.01$]). It was found that members of Generation Z (Gen Z) were less resilient. Also, Gen Z members had higher levels of openness to change, and self-enhancement as compared to Generation X (Gen X). In addition, Gen Z were found to be more positive in their attitudes toward flexible learning but no differences between the generations were found as for flexible work. Both generation members had the similar attitudes towards online consumption. Despite the magnitude and significance of the crisis, the main values of each generation remained unchanged in many respects, but attitudes of both generations are positive towards hybrid work and consumption.

Keywords Resilience · Personal values · Attitudes · Generation X · Global crisis

Generation Z accounts for 32% of the world population, and approximately 42% of the US population (Sakdiyakorn et al., 2021). The oldest cohort of Generation Z is about to enter the adult world, the world of work, career development, and academia, and life as an adult consumer preparing to build a home and family. The coronavirus pandemic is a major event impacting individuals of all generations, but the impact on Gen Z will persist over their lives, according to the generation effect, since Gen Zs are at the life stage when their long-lasting values are still being shaped (Azimi et al., 2022). The importance of understanding the generational attributes of Generation Z calls for research into the unique characteristics of this generation (Sakdiyakorn et al., 2021), especially in light of the coronavirus pandemic.

Generational labels describe large, socially defined groups that differ in significant ways; a generation is defined as being 20 years in length (Maloni et al., 2019). Mannheim (1970) formulated the theory of generations based on the idea that people of similar ages are bonded by historical events and experiences related to factors such as work, learning, consumer behavior, and family relationships. According to the theory of generations, a person's values are shaped by the major events witnessed while coming of age (Azimi et al., 2022).

Several generations have been identified, including Baby Boomers (born between 1946 and 1964), Generation X (born between 1965 and 1980), Generation Y (born between 1981 and 1996), and Generation Z (born after 1997) (Pew Research Center, 2019). For many years generational researchers have

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called for more studies to enhance the understanding of generational group differences (Sakdiyakorn et al., 2021).

In the current study we seek to examine the difference between Generation Z and a previous generation (Gen X) in terms of coping with a global crisis (COVID-19). We compared Generation Z with Generation X because the transition between one generation and the next is often unclear, and therefore Generation Z may be similar to Generation Y in many respects (Deal et al., 2010). Generation X are the closest generation, differentiated from Generation Z, who are still present in high percentages in the labor market.

The key economic events that impacted Gen X behaviors include the stock market crash of 1987, the recession in 1990, the dot.com bubble burst in 2000, and the subprime mortgage crisis of 2008 (Goldring & Azab, 2021). The values most important for Gen X are a sense of belonging, security and feedback (Jurkiewicz, 2000). Gen X exhibit unique characteristics resulting from these events, such as self-reliance, self-sufficiency, and skepticism. Gen X place great importance on being trusted to get the job done (Atieq, 2019; Goldring & Azab, 2021; Jurkiewicz, 2000; Kirk et al., 2015; Kyrousi et al., 2022; Twenge, 2010).

As opposed to Gen X who grew up in a non-digital environment, Gen Z is the first generation to have grown up surrounded by digital communication (Djafarova & Bowes, 2021), and existing findings about Gen Z indicate that the young people of this generation have unique attributes that stem from this digital environment. Research shows that American Gen Zs are connected to the Internet "almost always" and a further 44% noted that they are connected to the Internet several times a day (Parker & Igielnik, 2020).

Until the COVID-19 pandemic, Gen Zs grew up in a relatively stable and peaceful environment with a robust economy relative to previous generations. However, all this changed dramatically when the COVID-19 pandemic broke out, presenting Gen Z with new challenges (Parker & Igielnik, 2020). Multiple questions arise regarding the effect of the COVID-19 pandemic on the development of these young people and their future. Studies of Gen Z have shown that, compared with previous generations, even prior to the COVID-19 pandemic Gen Zs exhibited higher rates of depression and anxiety, and a need for emotional support (Schroth, 2019). Past studies show that younger generations are less resilient than older generations (Ludwig et al., 2020; Gooding et al., 2012(. However, it is not known why older people are shown to be more resilient in times of crisis. According to Parker and Igielnik (2020), Gen Zs spend less time in direct face-to-face contact with other people, and this is one reason why they have the highest ever generational reports of depression.

Recent studies indicate that the mental health of Gen Zs has been greatly affected by the COVID-19 pandemic. There are signs that the crisis has already significantly impacted the older cohort of Gen Z (18–23-year-olds) to a greater degree than older generations, particularly regarding employment (Parker & Igielnik, 2020). According to Liu et al. (2021) , the enormous amount of complex information about COVID-19 exceeded the information-processing capacity of Gen Zs and hindered their ability to develop an unbiased assessment of COVID-19, leading to a higher level of fear of the coronavirus pandemic. In addition, Azimi et al. (2022) found that the top two COVID-19 concerns for Gen Z were health and financial security. Generation Z is deeply concerned about uncertainty in the future.

With the intensification of the COVID-19 pandemic, many questions arose as for the crisis and its implications on human well-being, and the ability stay resilient in the face of the crisis (Prime et al., 2020). Resilience is defined as "the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma" (Windle, 2010). Resilience can be referred to both as a personality trait and as a situational factor that characterizes a mode of coping in a particular situation. Recent theory defines resilience as a state-trait mixed psychological variable and argue that resilience can be addressed from any of these perspectives (situational or personality-trait) (Ye et al., 2020).

According to the situational perspective, resilience may be determined by different cultural and social psychological factors which constitute how people regulate stress in different situations in life (Southwick et al., 2014). In the current study we will refer to the concept of resilience as a situational factor manifested in dealing with a specific situational crisis—the COVID-19 pandemic. We will apply a social-generational perspective, according to which we will examine how certain generations members deal with stressful situations in life.

There are recent studies on resilience during the COVID-19 crisis. One study found that people who had higher level of resilience during the COVID-19 lockdown were the ones who went outside more, exercised & had higher level of social support from family and friends (Killgore et al., 2020). Another recent study identified resilience as a moderator between perceived COVID-19 threat to future anxiety and subjective well-being (Paredes et al., 2021). Additional recent study on anxiety during the spread of COVID-19 found that older participants were less likely to have higher levels of anxiety (Shahar et al., 2021).

As for the research of Gen Z members' resilience during the COVID-19 crisis, there is very limited research on the topic. In one recent qualitative study which focused on the perception of the term 'resilience' by Gen Z members, undergraduate students described the building blocks of resilience as the ability to overcome despite a difficulty, the ability to gain support from meaningful others and the ability to learn from others who deal with difficult situations (Ang et al., 2021). We did not find any comparative

generational studies of different levels of resilience during the COVID-19 crisis.

As for personal values, Gen Z members also have a number of salient human values, self-transcendence (universalism and benevolence) being one of the most important which are part of a higher group of values (Azimi et al, 2022; Sakdiyakorn et al., 2021). This is followed by Gen Z's openness to change and self-enhancement (Sakdiyakorn et al., 2021). Another recent study on Gen Z values found that Gen Z core values were openness to change, self-enhancement, and self-transcendence, whereas the less important values were related to conservation (Črešnar & Jevšenak, 2019).

Like resilience, values are relatively stable over time, but may change during a crisis. Migration, war, terrorist attacks, and even financial crises, have been found to be related to threat driven value change (Sortheix et al., 2019). We adopted Schwartz's widely used and well-established theory of basic values (Schwartz, 2012). We explored whether Generation Z will have different values when compared to Generation X while dealing with the COVID-19 pandemic crisis.

A study examining intergenerational differences in values as measured by the Schwartz value survey prior to the COVID-19 pandemic, found that Generation Z had greater openness to change and higher levels of self-enhancement compared with previous generations. The older generations (baby boomers, Generation X) have demonstrated higher conservation and self-transcendence values (Lyons et al., 2007) . This study has not been tested in the context of dealing with a specific crisis.

With regard to consumer behavior, Gen Zs seem to make different choices of products and services than previous generations. Gen Z are very attracted to online purchasing and personalized products (Smith, 2019). Gen Z express themselves through their consumption and are strongly influenced by the opinions of others (Ismail et al., 2021).

A key concept generated by the COVID-19 virus and the consequent need for social distancing is the "hybrid model" of life, especially in the contexts of work, education, and consumption of various products (in store vs. online). Although there are various different implications of flexible work (De Smet et al., 2021) , flexible learning (Laslo-Roth et al., 2020) , and online consumption (Gu et al., 2021), it is clear that the change cannot be reversed and that future models of work and higher education will include hybrid elements – a combination of physical presence and remote work or distance learning. Such a change in lifestyle requires openness to experience, flexibility, and the ability to adapt to changes. The current study examines the attitudes of Generation Z as compared to older generations in the context of attitudes toward flexible work, flexible learning, and online consumption. Previous findings showed that younger generations have higher levels of openness to change (Lyons et al., 2007) and lower levels of conservation values (Črešnar & Jevšenak, 2019).

The goal of the current study was to examine how Generation Z cope with the COVID crisis as compared to a previous generation – Gen X. The differences between the generations are explored not only in terms of resilience, but also in terms of basic values and attitudes.

In terms of resilience, it is hypothesized that members of Gen Z will demonstrate lower levels of resilience as compared to members of Gen X during the COVID-19 crisis.

In terms of personal values, it is hypothesized that members of Generation Z will demonstrate higher levels of openness to change, self-enhancement, and self-transcendence than members of Generation X during the COVID-19 crisis. Members of Generation X are expected to have higher values of conservation.

In terms of attitudes, we hypothesized that members of Generation Z will be more positive in their attitudes toward flexible learning, flexible work, and online consumption as compared to members of Generation X. Measuring behavioral attitudes of members of Generation Z versus Generation X towards the "hybrid model" of life is important, since these attitudes are immediate antecedents to behavior, according to the theory of reasoned action (Ajzen, 2020; Ajzen & Fishbein, 1980; Madden et al., 1992). The theory of reasoned action posits that behavioral attitudes are a function of salient information or beliefs about the likelihood that performing a particular behavior will lead to a specific outcome.

Method

Participants

The study included 958 participants, divided into two age-groups: (1) Generation Z (age ranged between 18–24, Mean (M) = 21.18, Standard Deviation (SD) = 1.88), (2) Generation X (age ranged between 40–50, M = 44.89, SD = 3.05). Table 1 presents the comparison between the groups in demographic characteristics.

As shown in Table 1, similar distribution of gender was found between the groups. However, Generation X participants were more educated (85.6%) in comparison with Generation Z participants (37.7%). In addition, while most Generation X participants had a full-time job (76.4%), about half (47.7%) of Generation Z participants were unemployed. These sociodemographic differences support the notion that the groups are indeed differentiated in important aspects of education and job-related characteristics.

Instruments

Value Values were measured using the Short Schwartz's Value Survey.

Table 1 Comparison between Generation Z and Generation X samples in demographic characteristics

	Gen Z (18–24) N = 508		Gen X (40–50) N = 205		X²	p
	N	%	N	%		
Gender					0.01	.94
• Males	370	53.9	147	54.2		
• Females	317	46.1	124	45.8		
Education					178.5	< .001
• Non-academic	428	62.3	39	14.4		
• Academic	259	37.7	232	85.6		
Employment					170.5	< .001
• Full-time	210	30.6	207	76.4		
• Part-time	149	21.7	32	11.8		
• Unemployed	328	47.7	32	11.8		

(SSVS; Lindeman et al., 2005). This scale presents 10 values: power, achievement, hedonism, stimulating, self-direction, tradition, conformity, security, universalism, and benevolence. Participants rated each value as a guiding principle in their own life on a 9-point scale ranging from –1 (*opposed to my principles*) to 0 (*not important*) to 7 (*of supreme importance*). As in previous studies (e.g., Rickaby et al., 2020), values were aggregated into self-enhancement (power, achievement), α = 0.77, openness to change (hedonism, stimulating, self-direction), α = 0.72, conservation (tradition, conformity, security), α = 0.70, and self-transcendence (universalism, benevolence), α = 0.73. The SSVS showed a high level of reliability and validity in previous studies (e.g. Lindeman et al., 2005), as it did in its Hebrew version too (Daniel et al., 2013).

Resilience Resilience was measured using the Resilience Evaluation Scale (RES; Van der Meer et al., 2018). The scale consisted of 9 items (e.g., "I cope well with unexpected problems") and has demonstrated high reliability and validity in previous studies (Van der Meer et al., 2018). This scale was double translated: from English to Hebrew and then from Hebrew back to English, comparing discrepancies between the versions. High reliability was found for the RES in this study (α = 0.89).

Adherence to COVID-19 restrictions We developed an instrument for the purpose of this study, asking participants to what extent they were following 11 main COVID-19 governmental restrictions: (1) do not shake hands, (2) do not hug, (3) keep social distance, (4) do not participate social events, (5) less outdoor activities, (6) do not meet friends, (7) use face mask and gloves, (8) do not go out to public spaces, (9) wash hands more frequently, (10) buy emergency equipment, and (11) have canceled significant plans (e.g., going abroad). Each item was rated on a Likert scale between 1 (absolutely do not engage) to 5 (absolutely engage). Reliability of the total scale was high (α = 0.89). Items were averaged, with a higher score indicates a higher adherence with COVID-19 governmental restrictions.

Impairment in functioning due to COVID-19 We developed an instrument for the purpose of this study, asking participants to report to what extent the COVID-19 pandemic had harmed their functioning in the domains of social life, occupation, financial status, intimate relationships, and general well-being. Level of functional impairment was rated on a Likert scale between 1 (not impaired at all) to 5 (extremely impaired), yielding fair reliability in this study, α = 0.75. Items were averaged with a higher score indicates a severe impairment in functioning.

Hybrid career preferences We developed an instrument for the purpose of this study asking participants to rate the level of their workplace flexibility (between 1 [office only] to 5 [office & home], job training [1-formal, 5-formal and informal] and learning [1-in-person, 5 – in-person & virtual]. A higher score indicates more hybrid and flexible career preferences.

Consumption We developed an instrument for the purpose of this study asking participants to rate how they purchase products and services on a Likert scale between 1 (physical) to 3 (virtual + physical). Consumption was rated in three main areas – communication, finance, and fashion.

Procedure

Data were gathered in a cross-sectional study that was approved by the Institutional Review Board (IRB) of Peres Academic Center, Israel. The study was based on national data collected during September and October 2020 among a sample of Hebrew-speaking, Jewish adults, between 18 and 70 years of age, living in Israel. The sample was provided

Table 2 Comparison between Generation Z and Generation X samples in study variables

	Gen Z (18–24) N = 508		Gen X (40–50) N = 205		t	Cohen's d	p
	M	SD	M	SD			
Values							
• Self -enhancement	3.95	1.81	3.24	1.59	2.25	0.41	.02
• Openness to change	4.83	1.46	4.22	1.45	1.92	0.39	.03
• Conservation	4.57	1.43	5.06	1.28	1.89	0.36	.04
• Self-transcendence	5.37	1.45	5.42	1.40	0.39	0.03	.69
Resilience	4.38	0.82	4.81	0.71	3.35	0.56	.01
COVID-19 pandemic effects							
• Adherence to restrictions	3.83	0.88	4.20	0.70	5.32	0.46	< .001
• Functioning impairment	2.92	0.95	2.22	0.89	2.55	0.76	.01
Career preferences							
• Hybrid workplace (1-office only, 5-office & home)	3.53	1.76	3.48	1.85	0.25	0.02	.79
• Hybrid job training (1-formal, 5-formal & informal)	2.16	1.77	1.79	1.67	2.22	0.28	.02
• Hybrid learning (1-in-person, 5 – in-person & virtual)	2.71	2.03	2.29	1.98	2.14	0.20	.01
Consumption							
• Communication (1- physical, 3-virtual & physical)	2.34	0.82	2.04	0.78	3.33	0.37	.001
• Finance (1- physical, 3-virtual & physical)	2.10	0.52	2.07	0.43	0.73	0.03	.46
• Fashion (1- physical, 3-virtual & physical)	1.93	0.87	1.92	0.91	0.09	0.01	.92

by the national digital collection agency *iPanel*, which maintains a demographically diverse Web panel of subjects who opt-in to taking selected surveys. Potential participants were selected at random from those eligible within the stratified sample (by sex and age). The survey methodology is consistent with the ICC/ESOMAR International Code on Market and Social Research (2016).[1] All information was recorded anonymously, and respondents were assured that identification and personal information was protected. Participants signed online informed consents before beginning the survey.

Data analysis

Data were analyzed using SPSS version 27. Descriptive statistics were produced using frequencies for categorical variables (e.g., sex), and means with standard deviations for numeric variables (e.g., age). Differences between age groups in categorical variables were assessed using Chi-square procedures, while differences in numeric variables were assessed using *t*-tests. Effect size between groups were computed using Cohen's *d*. Correlations between the variables were assessed using Pearson tests. A *P*-value lower than 0.05 is considered significant for all analyses.

Results

Table 2 presents the comparison between Generation Z and Generation X samples in study variables.

As hypothesized, results showed that Gen Zs reported lower resilience as compared to Gen Xs ($M = 4.38$, $SD = 0.82$ vs. $M = 4.81$, $SD = 0.82$, Cohen's $d = 0.56$, $p = 0.01$).

As hypothesized, results showed that Gen Zs demonstrate higher self-enhancement ($M = 3.95$, S $SD = 1.81$ vs. $M = 3.24$, $SD = 1.59$, Cohen's $d = 0.41$, $p = 0.02$) and higher openness to change ($M = 4.83$, $SD = 1.46$ vs. $M = 4.22$, $SD = 1.45$, Cohen's $d = 0.39$, $p = 0.03$), in comparison with Gen Xs. However, no difference was found in self-transcendence between the groups.

As hypothesized, results showed that Gen Zs reported lower conservation in comparison with Gen Xs ($M = 4.57$, $SD = 1.43$ vs. $M = 5.06$, $SD = 1.28$, Cohen's $d = 0.36$, $p = 0.04$).

As hypothesized, results showed that Gen Zs prefer a more hybrid job training as compared to Gen Xs ($M = 2.16$, $SD = 1.77$ vs. $M = 1.79$, $SD = 1.67$, Cohen's $d = 0.28$, $p = 0.02$). However, no difference was found in workplace preference.

As hypothesized, results showed that Gen Zs prefer more hybrid learning in comparison with Gen Xs ($M = 2.16$, $SD = 1.77$ vs. $M = 1.79$, $SD = 1.67$, Cohen's $d = 0.28$, $p = 0.02$).

Results showed that Gen Zs prefer to use both virtual and physical channels to make purchases, while Gen Xs

prefer to buy communication products using physical channels ($M=2.34$, $SD=0.82$ vs. $M=2.04$, $SD=0.78$, Cohen's $d=0.37$, $p=0.001$). No differences were found in consumption of finance and fashion.

Table 3 presents Pearson correlations between values and resilience, on the one hand, and COVID-19 pandemic effects, career and consumption preferences, on the other hand.

Results show that both Gen Zs ($r=0.21$, $p<0.01$) and Gen Xs ($r=0.21$, $p<0.01$) with high conservation values demonstrate stronger adherence to COVID-19 restrictions. In addition, high openness to change is related to stronger adherence in both groups, but with a larger effect among Gen Zs ($r=0.24$, $p<0.01$), as compared to Gen Xs ($r=0.12$, $p<0.05$). High self-enhancement is correlated with stronger adherence only among Gen Z individuals ($r=0.13$, $p<0.01$).

Gen Zs with high conservation values reported lower functioning impairment due to COVID-19 ($r=-0.13$, $p<0.01$). In addition, only among Gen Zs was resilience found to be associated with stronger adherence to COVID-19 restrictions ($r=-0.14$, $p<0.05$), and also with a weaker preference for hybrid workplace ($r=-0.14$, $p<0.05$) or hybrid job training ($r=-0.17$, $p<0.01$).

Among Gen Xs, hybrid consumption of communication was correlated only with conservation ($r=-0.12$, $p<0.05$), while among Gen Zs, it was positively associated across all values.

Finally, to assess the variables that are associated with resilience during the pandemic, we regressed resilience with adherence to COVID-19 restrictions, functioning impairment due to COVID-19 and values groups (self-enhancement, openness to change, conservation and self-transcendence).

As demonstrated in Table 4, high openness to change was consistently related to resilience among total sample ($\beta=0.315$, $p<0.001$), among Gen X ($\beta=0.293$, $p<0.001$) and Gen Z ($\beta=0.400$, $p<0.001$).

However, functioning impairment due to COVID-19 was associated to low resilience only among Gen Z ($\beta=-0.152$, $p<0.001$) but not among Gen X ($\beta=-0.065$, $p=0.388$).

Finally, after controlling values and behavior during the COVID-19, Gen X reported higher resilience in comparison with Gen Z ($\beta=0.121$, $p<0.001$).

Discussion

The current study examined the difference between Generation Z and a previous generation in terms of coping with a global crisis (COVID-19), specifically regarding resilience, personal values, and attitudes.

The study's value lies in its focus on the ways in which Generation X and Generation Z deal with the significant

Table 3 Correlations between values and resilience with COVID-19 pandemic effects, career and consumption preferences

	Gen Z (18–24)					Gen X (40–50)				
	Self-enhancement	Openness to change	Conservation	Self-transcendence	Resilience	Self-enhancement	Openness to change	Conservation	Self-transcendence	Resilience
Adherence to COVID-19 restrictions	.13**	.24**	.21**	.07	.10*	.03	.12*	.21**	.06	.07
Functioning impairment due to COVID-19	-.04	-.06	-.13*	-.05	-.03	-.02	-.11	-.07	-.10	-.05
Hybrid workplace	.03	.06	.08	-.05	-.14*	-.03	-.03	.01	-.06	-.05
Hybrid job training	.01	-.06	.07	-.15**	-.17**	-.06	-.05	-.28**	-.05	.02
Hybrid learning	-.09*	-.02	.01	-.10*	-.04	.04	.01	.07	.09	.06
Communication	.13**	.10*	.10*	.18**	.06	.06	.12*	.11	.05	.11
Finance	.03	.12**	.11*	.10*	.03	.02	.01	.01	-.01	.05
Fashion	.02	.08	.06	.07	-.01	.03	.21**	.07	.06	.10

* $p<.05$, ** $p<.01$

Table 4 Regression coefficients predicting resilience

Variable	Total sample	Gen X	Gen Z
Self Enhancement	.045	.075	-.062
Self Transcendence	.048	.084	-.047
Conservation	.039	.036	.072
Openness to change	.315***	.293***	.400***
Adherence to COVID-19 restrictions	.071	.060	.063
Functioning impairment due to COVID-19	-.090*	-.065	-.152**
Age group (Gen X)	.121**	-	-
Explained Variance	17.6%***	16.6%***	15.1%***

*p < .05, **p < .01

challenges presented by the dynamic, complex and rapidly changing environment in which we live. It is particularly important to gain an in-depth understanding of how members of these generations cope with change, new situations and unexpected challenges, in order to explore ways of enhancing coping skills. We found that Generation Z participants demonstrated lower resilience in comparison with Generation X participants. This finding is consistent with past findings indicating that young people are less resilient than older people (Cohen et al., 2016; Ludwig et al., 2020; Gooding et al., 2012). However, a review of the literature indicates that resilience is domain dependent. Our findings therefore contribute to the study of Generation Z's resilience in the context of the current COVID-19 pandemic.

Various studies indicate increased anxiety and depression in young people, and our findings regarding Generation Z during the COVID-19 pandemic suggest that they are more vulnerable than older generations. Researchers warn of the impact of COVID-19 on adolescents and children (Hawes et al., 2021) and the current study points to the relative vulnerability of Gen Zs now entering the world of work.

During the COVID-19 pandemic, the number of employees working from home has risen, and employees report a feeling of loneliness over time (Taser et al., 2022). The younger generation of newcomers to the world of work are vulnerable in terms of resilience at the outset and therefore require special attention. The question also arises whether younger people who work from home for long periods of time should be a focus in terms of caring for their well-being.

In addition to resilience, we also examined participants' values. We found that Generation Z participants showed higher levels of self-enhancement and openness to change, and lower levels of conservation than Generation X participants. These findings are in line with previous findings (Črešnar & Jevšenak, 2019; Lyons et al., 2007) and demonstrate that despite the challenging times, younger generations are still showing openness to change. Theories about the change of values over time predict that in times of crisis values associated with conservatism and stability will prevail, while in prosperous and stable times values of self-expression will prevail. Openness to change expresses growth motivations and opposes anxiety motivators that conservation values express (Sortheix et al., 2019). Our findings are interesting because they point in the opposite direction: Although young people showed lower levels of resilience, they had higher levels of openness to experience and self-enhancement in terms of their values. Younger people attached more importance to self-enhancement and openness to change than older people (Schwartz, 2007) and valued self-enhancement, openness to change, and novelty (self-direction, stimulation, and hedonism) versus preserving the status quo and resisting change (Sortheix et al., 2019). Indeed, during the ongoing crisis of the COVID-19 pandemic, the younger generations still express a desire for self-expression in the future.

Importantly, using a multivariate analysis predicting resilience, we found that high openness to change was consistently related to resilience among both Gen X and Gen Z participants. Thus, the value of openness to experience was identified as central in the ability to overcome difficulties when facing a global crisis. In view of the fact that we also found that the levels of openness to change among Gen Z were particularly high, this is a positive indication of the ability of Gen Z members to maintain resilience facing forward.

This finding is important with regard to coping with the challenges of a dynamic environment. Openness to change seems to be a key mechanism in dealing with crises and rapid change in a dynamic environment. Changes, especially rapid and drastic changes, can be threatening, but they can also open up a range of opportunities and possibilities. Openness to change seems to facilitate a broader view of change that includes the positive aspects of the change, rather than just its negative aspects and threatening ramifications. The relationship between coping with challenges, resilience and openness to change would be an important area for future research.

Our study examined not only resilience and values, but also the attitudes of Generations X and Z toward hybrid work, hybrid training at work, and hybrid studying. One of

the main implications of COVID-19 has been the acceleration of online tools for use in the world of work and education, a change that experts estimate will remain with us over time (Gratton, 2021).

Consistent with our hypotheses, we found that Gen Zs have more positive attitudes toward hybrid studying and hybrid training at work. Hybrid training and studying as referred to in our study includes both face-to-face and online components. These findings are consistent with values of openness to change that we identified as characterizing Generation Z in this study.

However, contrary to our hypotheses, we found no difference between Generations X and Z in attitudes toward hybrid work, the combination of work from home with office work. Both generations showed positive attitudes toward hybrid work.

The question of why Gen Xs were more conservative toward online education and training online, but open to working from home like the younger Gen Zs, is an interesting question for future research. There is preliminary evidence to suggest that working from home is preferred by employees (Alexander et al., 2021), and contributes to their well-being. Preliminary evidence also indicates improved performance among people working from home (George et al., 2021). It may be that the convenience of working from home (no commute, accessibility to children and family if necessary, autonomy and independence at work) has outweighed the obstacle of conservatism that characterizes the older generations.

Still, Gen Zs were more open to learning that combines online tools with traditional tools, and also to work-based training that combines online training with the use of traditional learning methods. Academic institutions struggling with the question of whether to create face-to-face teaching programs or online courses, can take advantage of the openness of the younger generation to enable online learning with advanced tools. Workplaces today create a "blended learning" experience (Boone, 2015) which includes a combination of different training methods, in order to achieve the training goals and take advantage of the openness of the younger generation.

We also found that Gen Zs prefer to consume communication products using both virtual and physical channels, while Gen Xs prefer to consume communication products using a physical channel. No differences were found in consumption of finance and fashion between Gen Z and Gen X participants. On the whole, these findings are in line with recent studies examining consumer behavior during the Covid crisis. The dramatic increase in online shopping due to pandemic-related constraints has clearly led to a significant change in perceptions about online shopping. Fears and difficulties that older people experienced in the past about online shopping have lessened considerably over this period. Lockdowns compelled young and old alike to shop online, which not only removed these impediments but also increased positive attitudes toward online shopping, including an understanding of its many advantages. The COVID-19 crisis seems to have reduced generation gaps in this area (Gu et al., 2021).

This study is based on the theory of generations (Mannheim, 1970), which suggests that people of similar ages are bonded as a result of major events and experiences related to factors such as work, learning, consumer behavior, and family relationships (Azimi et al., 2022). Our research sought to investigate whether the theory of generations enhances our understanding of the characteristics of Generation Z during the COVID-19 pandemic. To this end, we examined whether Gen Z has certain unique characteristics that distinguish it from Gen X, characteristics manifested even during a significant crisis like the COVID-19 pandemic. This study indicates that significant differences between Gen Z and Gen X can be found with regard to resilience and values manifested during the COVID-19 pandemic. However, in the area of consumer attitudes, generation gaps have become considerably smaller, and Gen Z and Gen X share positive attitudes toward online consumption.

Despite the magnitude and significance of the crisis, the specific characteristics of each generation remained unchanged in many respects, although pandemic-related constraints did lead to a necessary change in consumer behavior, which was probably responsible for the shift in perceptions. The fact that significant differences were not found in the area of consumerism does not detract from the importance of the theory of generations, but rather delineates its boundaries; it is a theory that enhances our understanding of different groups in a population of a similar age, but not in all parameters, and furthermore, not in all contexts.

The insights gained in this research indicate the need for further study of perceptions of change and its associated challenges, as well as sensitivity to signs and trends that are precursors of the change. A seemingly unexpected, drastic change is sometimes preceded by hints of the impending change and is, in fact, an intensified continuation of an existing trend. Further research should examine perceptions of change and its associated precursors and challenges, and to consider these variables in relation to the research variables used in this study: resilience, values and attitudes.

Limitations and future directions

The current study sheds light on how a prolonged global crisis might impact certain aspects of psychosocial behavior among individuals of Gen Z and Gen X in different ways. The results should be interpreted with several limitations. First, despite a relatively large total sample size, Gen Z group (N = 508) was larger than Gen X (N = 205).

Nevertheless, despite this difference in size, both samples (including that of Gen X) were large, and therefore study of the variables could generate significant findings.

Second, as we employed a cross-sectional design, our conclusions are limited to a specific time frame during the pandemic. Future studies should monitor the variables studied in this research over time among Gen Xs and Gen Zs, to observe which changes remain, and which changes tend to fade out across time.

These variables should also be examined in the context of additional significant changes, in order to provide a broader perspective of their role in coping with crisis and change, beyond the COVID-19 pandemic.

Third, our study was conducted on two generation cohorts. It would be valuable, too, to study these variables in additional generational cohorts, especially those who have grown up during the COVID-19 pandemic, Generation Alpha, and to examine how this major crisis affected these children's resilience, as well as their values and attitudes. Finally, due to the need to measure novel phenomena that emerged only during the pandemic (e.g., adherence to COVID-19 restrictions) we did not use only validated scales, but rather developed specific instruments. Further studies should use these instruments and gather additional psychometric data.

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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