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Veröffentlichungsversion / Published Version

Sammelwerksbeitrag / collection article

Empfohlene Zitierung / Suggested Citation:

Kortmann, L., Hagen, C., Endter, C., Riesch, J., & Tesch-Römer, C. (2023). Internet use by people in the second half of life during the Covid-19 Pandemic: Social inequalities persist. In J. Simonson, J. Wünsche, & C. Tesch-Römer (Eds.), *Ageing in Times of the COVID-19 Pandemic* (pp. 235-253). Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-658-40487-1_13

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Internet Use by People in the Second Half of Life during the Covid-19 Pandemic: Social Inequalities Persist

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Lisa Kortmann, Christine Hagen, Cordula Endter, Julia Riesch and Clemens Tesch-Römer

13.1 Key Messages

In 2020, more people in the second half of life had internet access than in 2017. Between 2017 and 2020, the proportion of people who had access to the internet increased by about 4 percentage points: from 82.6 per cent in 2017 to 86.4 per cent in 2020. The increase was most pronounced in the 61–75 age group.

Differences between population groups in access to the internet remained. In both 2017 and 2020, older people aged 76 and over were proportionately much less likely to have access to the internet than people in middle adulthood (aged 46 to 75). Gender and education differences that were already evident in 2017

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J. Simonson et al. (eds.), *Ageing in Times of the COVID-19 Pandemic*,
https://doi.org/10.1007/978-3-658-40487-1_13

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persisted in 2020: Women were proportionately less likely to have access to the internet than men in 2020, and people with a low educational level were less likely to have access than people with a medium or high educational level.

One fifth of people who had access to the internet reported using the internet more frequently following the onset of the Covid-19 pandemic than before. In particular, more frequent internet use was reported in the youngest age group, 46–69-year-olds. Here, about one in four people said they used the internet more often than before the Covid-19 pandemic. In the 76 to 90 age group, only about one in eight people reported this.

The most frequent use of the internet was searching for information, maintaining social contacts, and for entertainment and culture. By contrast, respondents used the internet less frequently for banking, shopping, finding new social contacts, and creating their own content. In all areas surveyed, the proportion of people who said they used the internet frequently grew between 2017 and 2020. Particularly large increases were evident in the areas of entertainment and culture, searching for new social contacts, and online shopping.

There were still clear age differences in the way people used the internet. People aged 76 to 90 who had access to the internet used it less frequently than people aged 46 to 75 in all areas considered. Older people aged 76 and older, in particular, used the internet rarely for shopping. Concerning internet use for maintaining existing social contacts, the difference between older people and people in middle adulthood was significantly smaller compared to 2017.

13.2 Introduction

At the end of March 2020, the German federal government decided to initiate the first nationwide lockdown to contain the spread of Covid-19. The rules were initially relaxed in individual federal states in May 2020, and the pandemic slowed down during the summer. Yet, with the onset of winter, the number of cases increased, prompting the federal government to impose a renewed lockdown in November 2020 to get the pandemic under control during the second wave. Despite the initially successful efforts to reduce the number of infections, the far more infectious Covid-19 variants caused a renewed increase in the number of infections, which were interpreted as the beginning of a third pandemic wave.

A central instrument of policy responses to Covid-19 pandemic were restrictions on social contacts and public life. All social groups were affected by the restrictions, but the associated burdens were distributed differently.

In dealing with contact restrictions and the closure of public, cultural and commercial facilities, the potential of digital technologies was frequently noted. These made it possible to adapt work processes, organise everyday life digitally, and maintain social contacts while complying with pandemic regulations and guidelines. Digital technologies, it was said, would help to mitigate the psychological, social, and economic effects of pandemic-related restrictions and ensure social participation (Brakemeier et al. 2020).

However, to use digital technologies, people have to have access to them. This requires the availability of a digital infrastructure, such as a desktop computer or a mobile device (e.g., laptop, tablet, smartphone) with licensed and updated software, as well as access to the internet. However, previous studies showed that there were differences in internet access between younger and older people. Older people were less likely to have access to the internet than younger people and they used the internet less often than younger people (Huxhold and Otte 2019). This was especially true for people of advanced age, who particularly often lacked internet access (Doh 2020; Seifert et al. 2021; German Bundestag 2020).

This digital divide between older and younger people is an expression of social inequality. Alongside age, education and gender play a role here. For example, people with a low educational level had less access to the internet and used digital services significantly less often than people with a medium and a high educational level (Huxhold and Otte 2019; Ehlers et al. 2020). Women in the second half of life also used the internet less frequently than men of this age (Huxhold and Otte 2019). These aspects of inequality reinforced existing age differences. For example, older people with a high educational level differed less in their internet use from younger people with a high educational level than older people with a low educational level differed from younger people with a low educational level (Tesch-Römer et al. 2016).

The digital divide might have led to the exclusion of people without internet access from social participation if, for example, shopping facilities, public services, communication, and entertainment were only provided digitally. Such a shift of public life activities and services to the digital sphere took place in many areas as a result of the restrictions imposed to contain the Covid-19 pandemic. Against this background, this chapter looks at how access to the internet and the use of specific internet-based services and application purposes changed across different age groups between 2017 and 2020. On this basis, conclusions can be drawn about potentials and challenges of digital technologies in the pandemic for older people.

13.3 Research Questions

Internet access and use offers people options to cope with the challenges in everyday life, this was particularly true during the pandemic. In the following, the aim is to clarify whether the proportion of people in the second half of life who have access to the internet had increased since 2017 and whether internet use increased following the onset of the pandemic. The question is whether social inequalities continued to structure access to and use of the internet.

To this end, this chapter examines the following questions.

- **Access to the internet**
What proportion of people in the second half of life had access to the internet? Did this proportion change between 2017 and 2020? Were there differences in internet access by age, gender, and education? How did the differences in age, gender, and education compare between the two survey dates?
- **Use of the internet since the beginning of the pandemic**
Did the use of the internet for private purposes change following the onset of the pandemic? Were there differences by age, gender, and education?
- **Use of the internet for different purposes**
For what thematic purposes was the internet used and how often? How did the frequency of use for the purposes considered change between 2017 and 2020? How did the use of the internet for different purposes that were central to deal with the pandemic – such as seeking information, maintaining social contacts, entertainment and culture, and online shopping – change in the different age groups between 2017 and 2020?

For this chapter, data from the German Ageing Survey from 2017 and the paper-pencil short survey of the German Ageing Survey from June/July 2020 were evaluated. Changes in internet access and internet use were thus considered by looking at changes between 2017, that is before the start of the Covid-19 pandemic and after the first wave of the Covid-19 pandemic in June/July 2020.

The following measures were used in the analyses:

- *Access to the internet.*
Access to the internet was surveyed using the question: “Do you have access to the internet?” The answer options “yes, at home” and “yes, at work” were combined into one category (“yes”) for analytical purposes. In 2020, 86.2 per cent of people aged 46 to 90 had private access and 35.3 per cent had professional access to the internet. In total, 86.4 per cent of people aged 46 to 90 had access to the internet (private and/or professional).

- *Internet use since the beginning of the pandemic.*

The change in the frequency of private internet use since the beginning of the Covid-19 pandemic was surveyed with the following question: “Do you use the internet at home more often or less often since mid-March?” The possible answers were “more often”, “remained the same”, “less often”. This question was only asked in June/July 2020 and only to those who reported having access to the internet.

- *Frequency of internet use for different purposes.*

The frequency of internet use for different purposes was assessed with the following question: “How often do you use the internet for the following purposes?” The surveys in 2017 and 2020 asked about the same seven purposes of internet use in an identical or very similar way.

1. Contact with friends and relatives (e.g., e-mail, facebook, chat, video telephony like Skype)
2. Search for new social contacts (e.g., friends, partners, like-minded people)
3. Searching for information (e.g. news, advisers, Wikipedia)
4. Shopping (e.g. amazon, eBay, online pharmacy). In 2020, “food delivery” was additionally mentioned as an example.
5. Banking business (e.g. online banking). In 2020, “banking apps” and “mobile payment via smartphone” were additionally mentioned as examples.
6. Entertainment (e.g. listening to music, watching films, playing games, watching TV)
7. Create own content (e.g. texts, photos, music, uploading videos for blogs, websites, online selling).

The following response options were given: “daily”, “several times a week”, “once a week”, “once to three times a month”, “less often”, “never”. For a simplified presentation, the categories “daily” and “several times a week” were combined as “frequently” and the categories “several times a week” to “less often” were combined as “occasionally”. This question was also only asked to people who reported having access to the internet.

Information on peoples’ age, gender, and educational level was based on self-reporting or was already known due to previous participation in the German Ageing Survey. To examine the role of age, three age groups were formed: 46–60 years ($n_{2020} = 997$, 20.9 per cent; $n_{2017} = 1517$, 27.6 per cent), 61–75 years ($n_{2020} = 2166$, 45.5 per cent; $n_{2017} = 2576$, 46.8 per cent) as well as 76–90 years ($n_{2020} = 1600$, 33.6 per cent; $n_{2017} = 1406$, 25.6 per cent). In addition, women ($n_{2020} = 2431$, 51.1 per cent; $n_{2017} = 2753$, 50.1 per cent) and men ($n_{2020} = 2328$, 48.9 per cent; $n_{2017} = 2746$, 49.9 per cent) were compared. Education was divided into three groups: individuals with a low educational level ($n_{2020} = 205$; 4.3 per

cent; $n_{2017}=260$, 4.7 per cent), a medium educational level ($n_{2020}=2250$; 47.2 per cent; $n_{2017}=2741$, 49.9 per cent), and a high educational level ($n_{2020}=2307$; 48.4 per cent; $n_{2017}=2499$, 45.4 per cent).

13.4 Access to the Internet

Most people in the second half of life in Germany reported having access to the internet. This proportion increased slightly between 2017 and 2020, by just under 4 percentage points from 82.6 to 86.4 per cent (Fig. 13.1).

However, at both points in time, people in middle adulthood had greater access to the internet than older people (Fig. 13.1). In the youngest age group (46–60 years), coverage was almost complete, at over 96 per cent in both 2017 and 2020. Among the middle age group, 61-to-75-year-olds, the proportion of those with access to the internet increased significantly between 2017 and 2020, from 82.9 to 91.6 per cent. Among 76-to-90-year-olds, the proportion of people with internet access also increased between 2017 and 2020, from 45.1 per cent to 52.1 per cent. However, almost half of the people in this age group still lacked internet access.

Differences in access to the internet were also evident regarding gender. Women in the second half of life had less access to the internet than men and this only changed slightly between the survey years: even in 2020, the proportion of women who had access to the internet, 82.5 per cent, was lower than the proportion of men, 90.5 per cent.

The educational level was also of considerable importance for internet access: here, large differences were evident in both 2017 and 2020. While almost 94.2 per cent of people with a high educational level had internet access in 2020, the share of people with a low educational level who had internet access was 61.6 per cent, a significant gap of almost 33 percentage points. Of those with a medium educational level, 82.8 per cent had access to the internet in 2020.

13.5 Internet Use Since the Beginning of the Covid-19 Pandemic

People with internet access were asked in 2020 whether they had used the internet more frequently since the beginning of the Covid-19 pandemic than before. Only private use was considered. Of people aged 46–90 years, 20.7 per cent

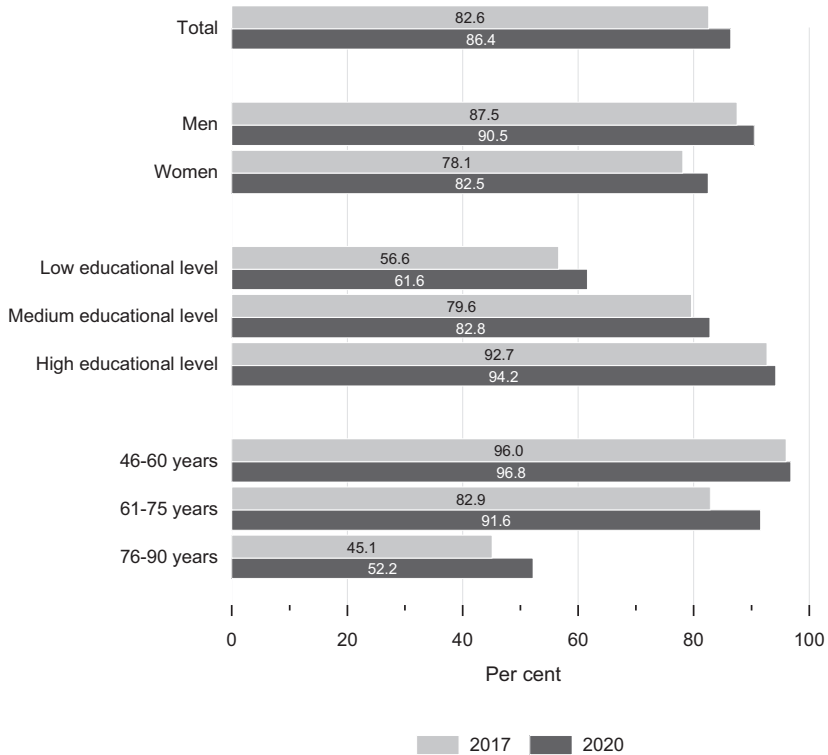


Fig. 13.1 People who had access to the internet, total, by age, gender, and education, 2017 and 2020 (in per cent). *Source* DEAS 2017 (n=5314), DEAS 2020 (n=4626), weighted analyses, rounded estimates. Statistically significant increase of people who reported having access to the internet in total from 2017 to 2020 ($p < 0.05$); There were statistically significant associations between internet access and the characteristics age, gender, and education for 2017 and 2020 ($p < 0.05$). Significant changes regarding the proportion of people with internet access from 2017 to 2020 were evident in the group of 61-to-75-year-olds, within the group of men, as well as the group of women ($p < 0.05$)

reported having used the internet more frequently since the beginning of the Covid-19 pandemic than before the pandemic (Fig. 13.2). Most people stated that they had not changed their usage behaviour (77.3 per cent). Only just under 2 per cent of respondents reported having used the internet less frequently since the beginning of the pandemic.

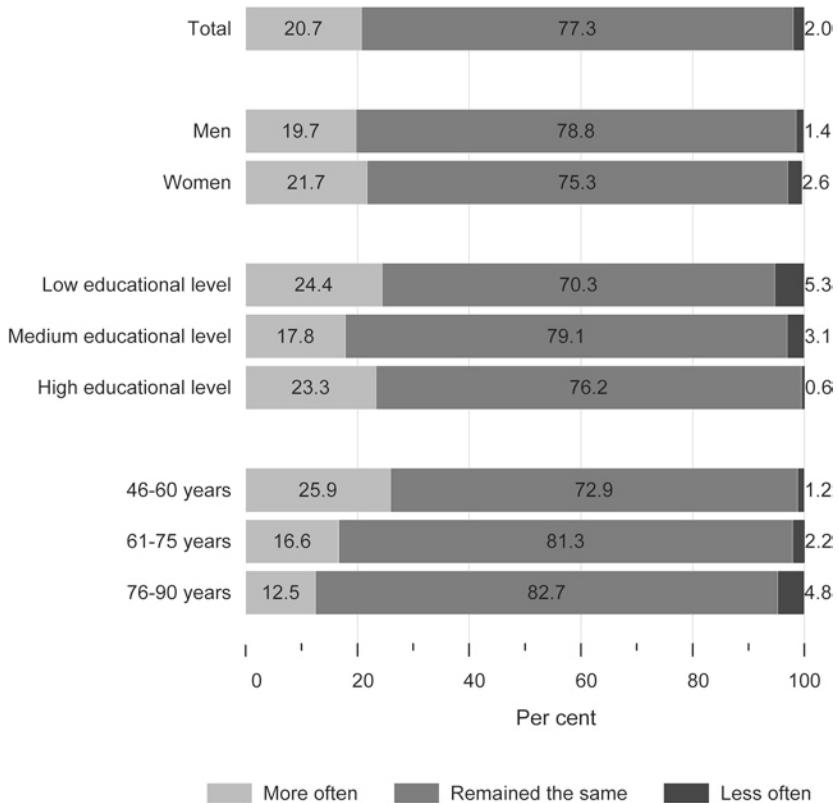


Fig. 13.2 Reported change in the frequency private internet use, total, by age, gender, and education, 2020 (in per cent). *Source* DEAS 2020 (n=3806), weighted analyses, rounded estimates. Age and education show a statistically significant correlation with the reported change in frequency of private internet use ($p < 0.05$)

There were clear age differences in the reported changes in internet use since the beginning of the pandemic: people in middle adulthood have tended to expand their use more than older people: while about a quarter of people in the 46–69 age group used the internet more frequently, the figures were 16.6 per cent among 61-to-75-year-olds and 12.5 per cent among 76-to-90-year-olds (Fig. 13.2).

Only slight gender differences were evident in terms of reported changes in the frequency of internet use since the beginning of the pandemic.

However, there were also differences between people with different educational levels: about a quarter of people with a high or low educational level reported that they had used the internet more often since the beginning of the Covid-19 pandemic. In contrast, only 17.8 per cent of people with a medium educational level had used the internet more frequently since the beginning of the pandemic.

Overall, only a minority of those people in the second half of life with internet access reported using the internet more frequently for private purposes after the onset of the Covid-19 pandemic than before. In this context, the following age differences can be highlighted: people of advanced age (76–90 years) were significantly less likely to have access to the internet than people aged 46–75 (Fig. 13.1) and when they did have access to the internet, the reported increases in frequency of use after the beginning of the pandemic were significantly lower than in the younger age groups (Fig. 13.2).

13.6 Internet Use for Different Purposes

People used the internet for various purposes. Figure 13.3 provides an overview of the proportion of people in the second half of life who used the internet frequently, occasionally, or never for the purposes surveyed for the years 2017 and 2020. In both years, 2017 and 2020, the internet was most frequently used for searching for information, maintaining existing social contacts, and accessing entertainment and culture. In 2020, more than three-quarters among all people with internet access used the internet daily or several times a week to search for information—e.g., to find out about the latest news or to visit advice sites. More than half of the people used the internet at least several times a week in 2020 to keep in touch with friends or relatives and to listen to music, watch films or play games (entertainment and culture). Frequent internet use increased for all of the purposes addressed between 2017 and 2020, except for the “create own content” purpose.¹ The internet was used more frequently for entertainment and culture, but also for finding new social contacts and doing online shopping—albeit at lower levels (Fig. 13.3).

¹ Only the proportion of people who frequently used the internet to create their own content had not changed statistically significantly between 2017 and June/July 2020.

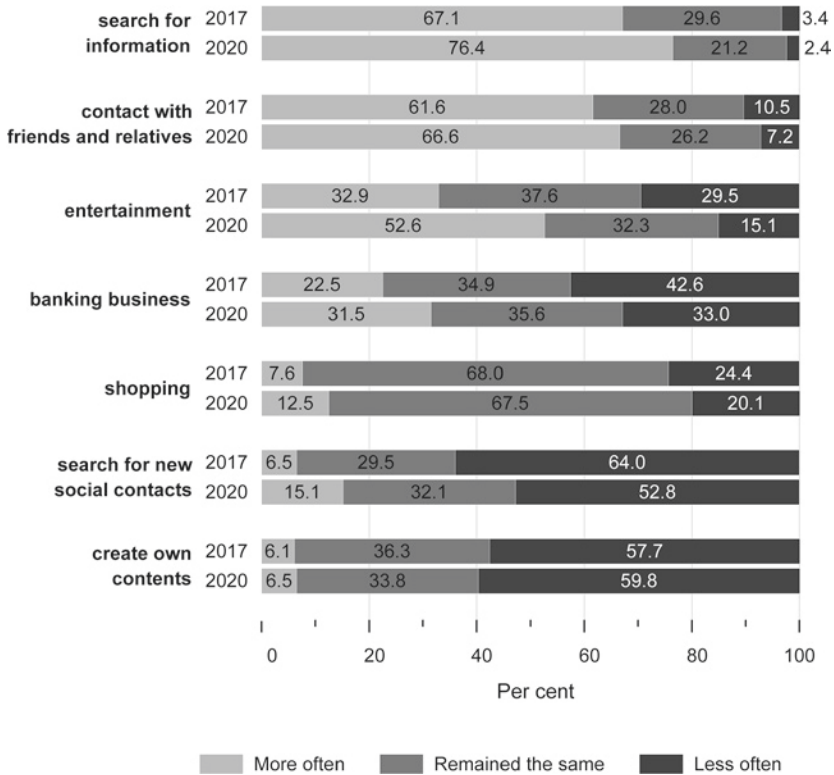


Fig. 13.3 Use of internet access by people aged 46–90 by thematic purpose, 2017 and 2020 (in per cent). *Source* DEAS 2017 (n = 4173), DEAS 2020 (n = 3837), weighted analyses, rounded estimates. The change in frequent internet use among people with internet access from 2017 to 2020 was significant for all purposes of internet use ($p < 0.05$); only the frequent internet use for the purpose of creating own content showed no significant change from 2017 to 2020

13.7 Age Differences in Internet Use

In the following, a more differentiated look is taken at four of the seven purposes of internet use that may have been particularly helpful for people in the second half of life during the Covid-19 pandemic: searching for information, maintaining existing social contacts, entertainment and culture, and online shopping. These

were broken down for people with frequent use, people with occasional use and people who never used the internet for the purpose (Fig. 13.4 to 13.7).

Searching for information was the most frequent purpose for internet use. In all age groups, over 90 per cent used the internet at least occasionally to search for information in both 2017 and 2020 (Fig. 13.4). The proportions of people who frequently used the internet to search for information increased significantly in all age groups between 2017 and 2020. Among those aged 46–60, the increase was 9.0 percentage points (from 72.7 to 81.7 per cent), among those aged 61–75, it was 12.2 percentage points (from 62.5 to 74.7 per cent) and among those aged 76–90, it was 9.5 percentage points (from 49.6 to 59.1 per cent).

More than 90 per cent of people aged 46–90 used the internet at least occasionally to maintain existing social contacts (Fig. 13.5). What is striking here is that in the oldest age group, 76-to-90-year-olds, the proportion of those with

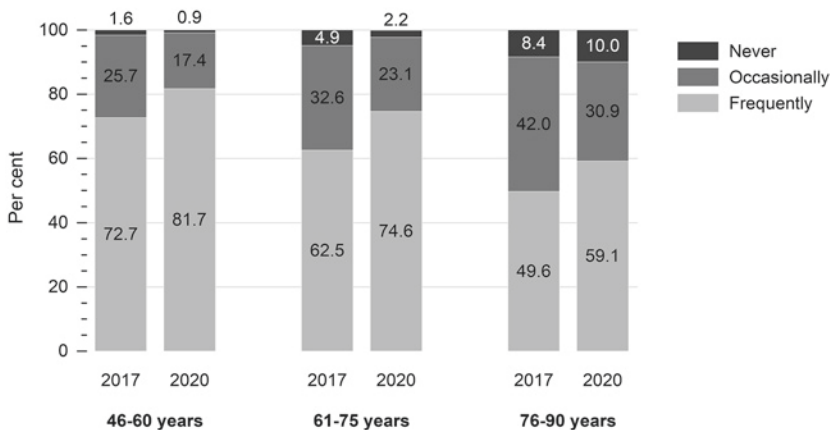


Fig. 13.4 Frequency of internet use to search for information, by age group, 2017 and 2020 (in per cent). *Source* DEAS 2017 (n=4140), DEAS 2020 (n=3789), weighted analyses, rounded estimates. In 2017 and 2020, there were statistically significant correlations between frequency of internet use and age ($p < 0.05$); The proportion of people with internet access who frequently used the internet to search for information differed statistically significantly between 2017 and 2020 within the following age groups: 46–60 years, 61–75 years ($p < 0.05$). The proportion of people with internet access who occasionally used the internet to search for information differed statistically significantly within all three age groups between 2017 and 2020. The proportion of people with internet access who never used the internet for this purpose differed statistically significantly within the 61–75 age group between 2017 and 2020 ($p < 0.05$)

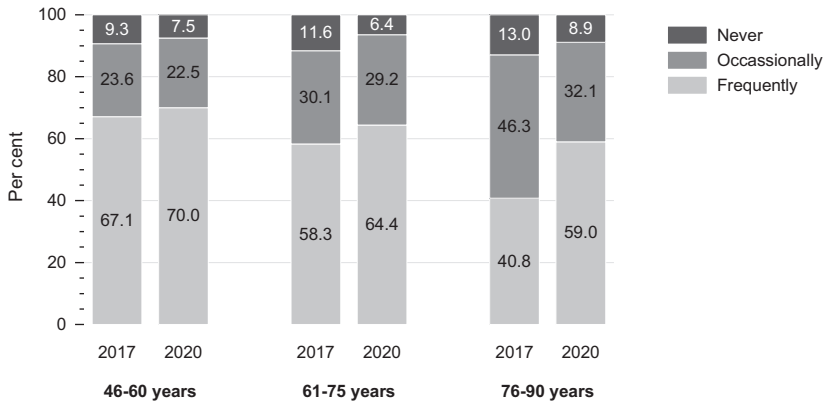


Fig. 13.5 Frequency of internet use to maintain existing contacts with friends and relatives, by age group, 2017 and 2020 (in per cent). *Source* DEAS 2017 (n=4149), DEAS 2020 (n=3787), weighted analyses, rounded estimates. In 2017 and 2020, there were statistically significant correlations between the frequency of internet use for contact with friends and relatives and age ($p < 0.05$); the proportion of people with internet access who frequently used the internet for this purpose differed statistically significantly within the 76–90 age group between 2017 and 2020 ($p < 0.05$). The same applies to occasional use of the internet to stay in contact with friends and relatives. The proportion of people with internet access who never used for this purpose differed statistically significantly within the 61–75 age group between 2017 and 2020 ($p < 0.05$)

frequent use increased sharply between 2017 and 2020. In 2017, only 40.8 per cent in this age group used the internet frequently to maintain contact with friends and relatives. By June/July 2020, this proportion had increased to 59.0 per cent, an increase of 18.2 percentage points. The increase was smaller in the younger age groups: among 46-to-60-year-olds, there was an increase of 2.9 percentage points to 70.0 per cent; among 46-to-60-year-olds there was an increase of 6.1 percentage points to 64.4 per cent. Even if there were still age differences regarding the frequency of internet use for socialising in 2020, the differences between the age groups narrowed from 2017 to 2020.

As age increased, the proportion of people who used the internet occasionally or frequently for entertainment and culture tended to decrease (Fig. 13.6). This applied in 2017 and in 2020. However, between 2017 and 2020, there was a relatively large increase in all three age groups of people who frequently used the internet for entertainment or culture, for example to watch movies, listen to music or play games.

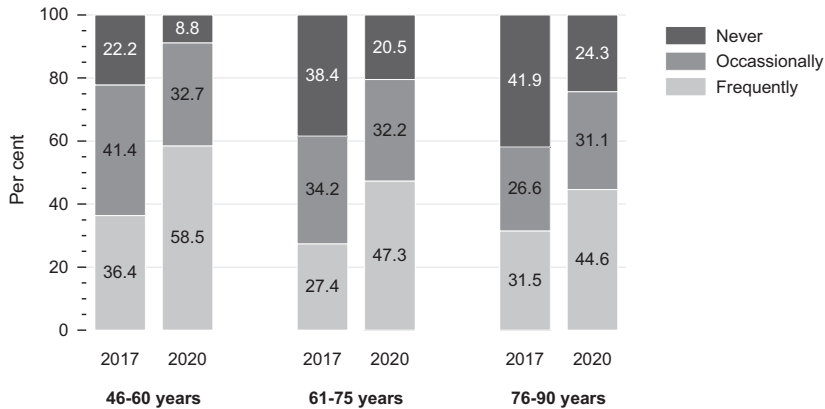


Fig. 13.6 Frequency of internet use for entertainment and culture, by age group, 2017 and 2020 (in per cent). *Source* DEAS 2017 (n=4135), DEAS 2020 (n=3781), weighted analyses, rounded estimates. In 2017 and 2020, there were statistically significant correlations between the frequency of internet use for entertainment and age ($p < 0.05$); The proportion of people with internet access who frequently used the internet for entertainment and culture differed statistically significantly within all three age groups in 2017 compared to 2020 ($p < 0.05$). The proportion of people who occasionally used the internet for this purpose differed statistically significantly within the 46–60 age group between 2017 and 2020 ($p < 0.05$). The proportion of people who never used the internet for entertainment and culture differed statistically significantly within all three age groups between 2017 and 2020 ($p < 0.05$)

However, the increase was smaller in the oldest age group than in the younger age groups. Between 2017 and 2020, the increase in frequent internet use for this purpose was 22.1 percentage points for those aged 46–60 (from 36.4 to 58.5 per cent), it was 19.9 percentage points for those aged 61–75 (from 27.4 to 47.3 per cent) and it was 13.1 percentage points for those aged 76–90 (from 31.5 to 44.6 per cent).

There were pronounced age differences regarding the use of the internet for shopping in both 2017 and 2020. Older people did much less online shopping than people in middle adulthood (Fig. 13.7). For example, in the summer of 2020, 86.8 per cent of people with internet access aged 46–60 reported that they occasionally or frequently did online shopping, compared to just 56.3 per cent of those people aged 76–90 years. However, the proportion of 76- to 90-year-olds who never used the internet to shop online decreased significantly between 2017 and 2020 (by 9.8 percentage points from 53.5 to 43.7 per cent).

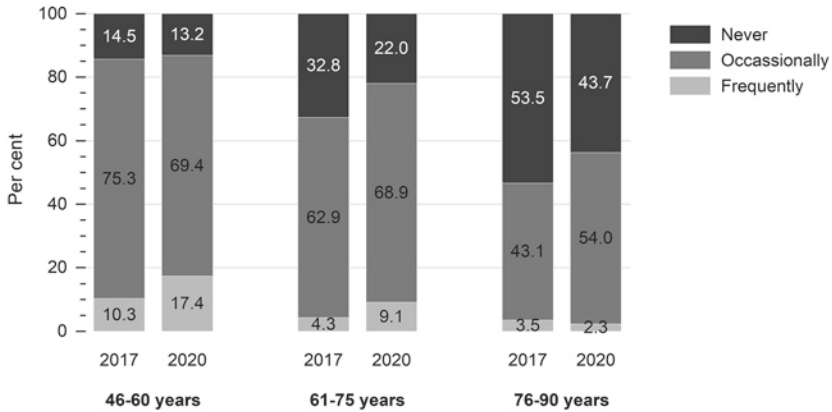


Fig. 13.7 Frequency of internet use for shopping, by age group, 2017 and 2020 (in per cent). *Source* DEAS 2017 (n=4143), DEAS 2020 (n=3787), weighted analyses, rounded estimates. In 2017 and 2020, there were statistically significant correlations between the frequency of internet use for shopping and age ($p < 0.05$); The proportion of people with internet access who frequently used the internet for shopping differed statistically significantly within the 46–60 age group and the 61–75 age group between 2017 and 2020 ($p < 0.05$). The proportion of people who occasionally used the internet for this purpose differed statistically significantly within all three age groups between 2017 and 2020 ($p < 0.05$). The proportion of people who never used the internet for shopping differed statistically significantly within the 61–75 age group between 2017 and 2020 ($p < 0.05$)

13.8 Summary and Discussion

The present findings showed that digitalisation in Germany progressed further between the years 2017 and 2020. Whether the Covid-19 pandemic acted as an accelerator for digitalisation or not cannot be clearly determined based on the available analyses and must be taken into account when interpreting the findings. Nevertheless, certain developments could be identified:

A large proportion of people in the second half of life already had access to the internet and this proportion increased further between 2017 and 2020: by almost 4 percentage points to 86.4 per cent. The increase was particularly significant in the 61–75 age group. Similarly, among the over-75s, a larger proportion had internet access in 2020 compared to 2017. However, only just over half of the over-75s had internet access in 2020. This illustrated that although access to the internet had risen in all age groups between 2017 and 2020, it was especially

older people aged 75 and older that still lacked internet access. And consequently, especially people from this age group could not benefit from digital opportunities arising via internet access in general and in context of the Covid-19 pandemic. There was a lot of talk about a digital divide between “young and old” in society, for example, between the “first” and “second half of life” (Seifert et al. 2021). Yet, the findings of this chapter show how important it is to additionally consider differences within the group of people in the second half of life.

Concepts and models for digital education and participation must take the specific situation of this age group into account, especially of the 75+ group. This is even more important as the shift from many offline services to the digital sphere in the pandemic, as well as the persistence of contact restrictions, may have made the living situation of older people without internet access more difficult. For example, booking vaccination appointments, shopping for shoes or attending concerts was often only possible online.

A solid 20 per cent of people with internet access aged between 46 and 90 years reported using the internet more frequently for private purposes after the onset of the Covid-19 pandemic. However, the proportion of those who reported no change in frequency of use was very high, at 77 per cent. In this context, age differences should also be noted. While more than a quarter of those aged 46–60 years stated that they had used the internet more often for private purposes since the beginning of the pandemic than before, only an eighth of those aged 75–90 years had done so. The pandemic thus led to an intensification of internet use for private purposes for people in the second half of life, albeit one that differed between the age groups. Overall, the findings were in line with other studies showing that the number of older people who had internet access and used it frequently was increasing (Seifert and Schelling 2016; Doh 2020; Initiative D21 2019).

The analyses also showed that among people with internet access, the frequency of internet use increased for almost all purposes between 2017 and summer 2020. For example, internet use for searching for information has intensified significantly in all age groups over the years. The same applied to internet use for entertainment and culture as well as for online shopping. In the case of internet use for maintaining social contacts, the 76-to-90-year-olds in particular reported a more frequent use for this purpose in summer 2020 compared to 2017.

The more frequent internet use by people in the second half of life with internet access suggested that the internet gained further importance during the pandemic. Findings from other recent studies also point in this direction. Those studies show that especially those who had already used the internet for information and communication purposes before the pandemic benefited from it during the pandemic—

people intensified their use of familiar communication tools such as the internet (Wahl et al. 2021; Hartung-Griemberg et al. 2020). Accordingly, the high increase in the frequency of internet use to maintain social contacts among the over-75s could be explained by the fact that this age group may have increasingly used the internet to maintain social contacts despite contact restrictions.

Overall, the findings presented here suggested that the digital divide in terms of internet access between people in middle adulthood and older people will decrease in the medium and long term. While almost everyone in the 46–60 group already had access to the internet in 2017 and therefore only a small increase was noted in 2020, there was a more substantial increase in internet access among the over-60 s in 2020. However, the results also show that access to the internet, as well as frequency of use were still strongly dependent on gender, education and age. Thus, it was mainly those people with a high educational level, men, and people between the ages of 46 and 75 who had access to the internet. In contrast, people with a low educational level, women and people aged 76 and older had internet access comparatively less often. These results indicated that social inequality factors continued to influence access to and use of the internet.

Regarding those people in the second half of life who did not have internet access, the challenge is to find ways for them to gain and maintain access to all important information, offers and services, especially in situations like the Covid-19 pandemic. In addition, it is necessary to strengthen the digital skills of people in the second half of life so that they can safely make use of the opportunities offered by the internet. This is a task that challenges science as well as society and politics. The Eighth Government Report on Older People emphasised the role of local authorities in the development of digital education, learning and experience spaces, as well as in providing low-threshold, local counselling, and support services for the acquisition of skills (German Bundestag 2020).

The goal of all efforts should be to enable social participation for all people. However, due to the existing digital divide, this will not be possible exclusively via the internet (German National Association of Senior Citizens' Organisations, 2020). Especially during the Covid-19 pandemic, access to the internet increasingly offered many advantages. The internet enabled people to contact friends and family while complying with contact restrictions. It also enabled people to participate in cultural events in the digital sphere and provided a wide range of entertainment. The internet also enabled people to access every day and other consumer goods without exposing themselves to a risk of infection while shopping. However, a digital divide in terms of access to the internet was particularly evident between people in middle adulthood (46–60 years) and older adulthood (76 years and older). In addition, educational differences as well as differences

between women and men were significant. Bundled and interlinked measures by the federal government, the states, and the municipalities are necessary to make access to and use of the internet as low threshold as possible for all people.

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