



Investigating the Generation- and Gender-Dependent Differences in Social Media Use: A Cross-Cultural Study in Germany, Poland and South Africa

Kaja J. Fietkiewicz¹(✉), Elmar Lins¹, and Adheesh Budree²

¹ Heinrich Heine University Düsseldorf, Düsseldorf, Germany

Kaja.Fietkiewicz@uni-duesseldorf.de

² University of Cape Town, Cape Town, South Africa

Abstract. In social media research, there is an ongoing debate about whether and how much cultural and geographical differences impact social media interaction. There has not been reached a consensus yet, which is why we apply an extensive statistic model based on a unique and large dataset of German, Polish, and South African social media users. We aim to answer the following questions: How do different generation use social media? Are there any gender-dependent differences? How do these differences vary between three different countries?

Keywords: Social media use · Gender-dependent differences
Age-dependent differences · Cross-cultural study

1 Introduction

The modern world is shaped by new information and communication technologies, including the emergence of social media taking place in the context of Web 2.0 [1, 2]. With time, social media or “social networking sites (SNS) such as Facebook have become part and parcel of our daily lives” [3]. These new digital tools are slowly replacing the known, traditional means of communication [4]. They generate new ways of interaction not only between individuals, but also between firms and their clients [5]. However, not everyone applies the different SNSs in a same way. Different generations have different motivation for and manner of using the online media, and the same holds for male and female users [4, 6, 7].

Moreover, many social media researchers emphasize the need to examine demographic differences in the use of, for example, Facebook, among different age groups, cultures as well as genders [8–11]. This is important since most studies focus on Facebook users from the U.S. [8, 12–22] and students [9, 13–15, 18, 19, 21, 23–25]. The sole focus on Facebook instead of several social media platforms should also be broadened to further channels. Age and gender appear to be the key variable in understanding the user behavior on SNSs [26–29] as well as in the gratifications of internet use or the related accessibility [8, 30]. Therefore, this study will consider cross-cultural age- and

gender-dependent differences in social media usage. The cross-cultural comparison includes three countries: Germany, Poland, and South Africa.

The current investigation of age-dependent differences is based on the notion of different generations. Here, the most distinct gap can be found between generations that were firstly confronted with the Internet and its applications in their late stages of life (Silver Surfers) [6], the ones that were raised without the Internet, however, had the possibility to adopt it from its beginning and in their adolescent or adult lives (Digital Immigrants) [4, 31], and, finally, generation that grew up in the omnipresence of the World Wide Web (the Digital Natives) [4, 31]. According to Prensky [31], the arrival and dissemination of digital technology at the end of the 20th century has “changed everything so fundamentally that there is no going back.” Prensky calls the newest generation born and raised in this time the “Digital Natives”. They spend their entire lives surrounded by computers, cell phones, and all other “toys and tools of the digital age” [31]. In this study, the investigation of age-dependent differences in social media usage is grounded on the notion of different generations and, therefore, the reference “generation-dependent” social media usage will be applied. Despite the differences in social media usage by different generations, there is a vast literature examining gender differences in online settings [27]. Even though there appear to be no gender differences in overall amount of Internet use, there could be gender-dependent divergences in motivations for it as well as the utilization of time spent online [6, 7, 27]. According to Muscanell and Guadagno [27], the gender differences in online behavior may apply especially to SNSs, since men and women use them for different reasons. In light of possible gender-dependent differences, this factor will be also regarded in the current study.

This study does not only focus on probability of use of a certain social media platform or the usage frequency, differentiated between generations, genders and cultures. Another relevant factor to investigate is the objective of using the service and the perspective of the uses and gratifications (U&G) of its users [29, 32–36]. More precisely, what exactly are the motives of users to create content in social media and how the gratifications of generating content affect the activities in social media [35]. The U&G theory (or UGT) [32, 33] is “a theoretical framework explaining how and why people actively seek out different media to fulfill their specific needs and wants. UGT posits that the gratifications users receive through the media they select, in turn, satisfy a variety of informational, social, and leisure needs” [37]. This framework enables an investigation of how individuals utilize media in a variety of contexts and settings, what desires motivate individuals to use specific technologies, and what are their social and psychological characteristics [38]. In this study, we incorporate two U&G factors possibly influencing the usage of diverse social media platforms, namely the “social interaction” and “approval seeking”.

Another important aspect addressed especially in Facebook research, but also relevant in context of other social media, is the investigation of how users deal with privacy or how privacy concerns vary between different demographic groups and nationalities [9]. “Internet users, members of SNSs in particular, seem either not concerned about their privacy or not aware of the loss of privacy they suffer during their time online” [39]. Studies show that even though many users are concerned about the privacy issues, SNSs encouraging their users to reveal and exchange personal information are more and more popular [30]. Especially Facebook is not only known

for its popularity, but also for the quality and quantity of personal information in it [30, 40] as well as reoccurring privacy issues related to acquisitions of other SNSs [41]. According to Acquisti and Gross [40], privacy concerns are a weak predictor of individual’s membership in an SNS, and even if some have concerns about the privacy, they still join the networks and reveal personal information [30, 40]. Furthermore, there appear to be gender-dependent differences regarding the exposure of personal information on SNSs [30, 40].

2 Methods

2.1 Research Model

Even though the research on social media, especially Facebook, is very vast, there is need for more cross-cultural investigations, since the cultural background may have an influence on the adoption and usage of SNSs. Furthermore, many social media studies focus on certain age groups of the social media users, mostly teenagers and adolescents. To broaden this perspective, we conduct a more extensive, cross-generational investigation. Finally, we include gender as a factor. These three aspects—country, gender, and generation—are independent variables of our research model (Fig. 1). In this study, we investigate the differences in social media usage—the adoption of SNSs (probability of use), the frequency of continuous usage, the two U&G factors coming from the use of the SNSs—the social interaction and approval seeking, and, finally, the importance of privacy.

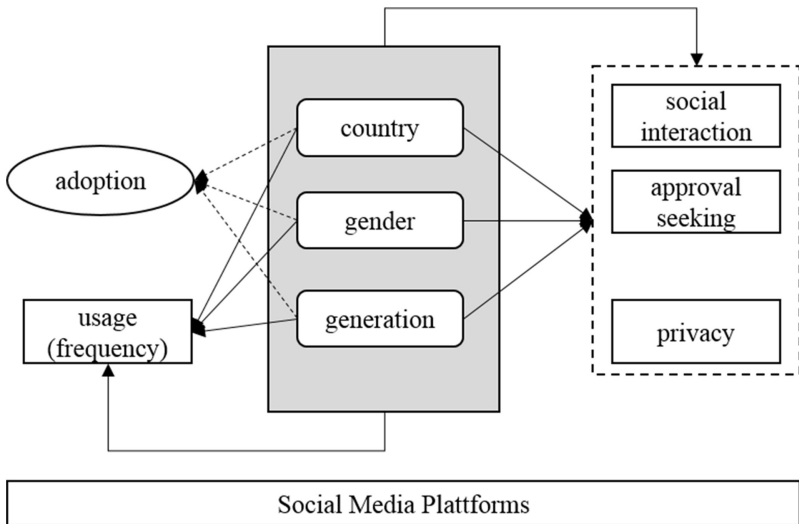


Fig. 1. Research model: cultural-, gender- and generation-dependent differences in adoption and usage of social media as well as in uses and gratification objectives and privacy concerns.

2.2 Online Questionnaire

The data presented in this paper was collected through an online survey which was distributed via social media, email and face-to-face. The survey was randomly distributed among males and females from different educational levels and ages within Germany, Poland, and South Africa. The survey focused on evaluating thirteen different social media platforms, and comprised of forty-two questions, which took respondents approximately 3–5 min to complete. The survey was designed in a way that respondents only had to select an option that closely related to the respondent. Furthermore, none of the question required an explanation for any given response.

Studies of online population, like the social media users, have led to an increase in the use of online surveys [6, 42]. There are many advantages of online surveys, including access to individuals from distant locations, automated data collection and analysis [42] as well as flexibility for the respondents to answer the question when and where they want to, question diversity, control of question order, and required completion of answers [43]. For this study the nonprobability sampling was applied, in form of purposive or judgment sampling (social media users), continued as snow-ball sampling (sharing on social media by participants). Judgment sampling is one of the most common sample techniques, where the researcher actively selects the most productive sample to answer the research question, whereas the subjects may recommend useful potential candidates for study [44].

The first question of the survey was a polar question about the use of a certain service, e.g., ‘Do you use Facebook?’ Dependent on the answer, two follow-up questions about the concerned service succeeded—about the frequency with which the service is used (e.g., ‘How often do you use Facebook?’) and about the importance of certain aspects while using the services (e.g., ‘In reference to Facebook, it is important to me that...’). Here, the aspects of U&G and privacy were investigated. The inquiry was adjusted to each service and included three sub-questions, for example, in case of Facebook, ‘It is important to me that (i) I have a lot of friends (i.e., social interaction) (ii) I get a lot of “likes” (i.e., approval seeking), and (iii) my personal data is treated as confidential’ (privacy). The answers for frequency of usage and motivation questions could be marked on a 7-point Likert scale, where “1” meant fully disagree (or in case of frequency “almost never”) and “7” meant fully agree (or “I am always online”). The socio-demographic questions regarded gender, year of birth, country, and education.

2.3 Data Analysis

First, we examine differences in adoption, frequency, importance of social interaction and approval seeking, and privacy, between the three countries in general as well as between different generations and genders (for each country separately).

Subsequently, in order to investigate whether the gender- and generation-dependent differences are indeed significant, we calculated two-sided t-tests. For this purpose, we created dummy variables for female users and for each generation (Silver Surfers, Gen X, Gen, Y, and Gen Z). The investigated generations and their respective years of birth were adopted from our previous research on inter-generational comparison of social media use [4, 6, 7]. The generations encompass the following years of birth: 1920–1959 for “Silver

Surfers”, 1960–1979 for Gen X (or Digital Immigrants), 1980–1995 for Gen Y (or Digital Natives), and 1996–2010 for Gen Z [4, 6, 45–49]. Only significant outcomes ($p < 0.05$) of the t-test will be elaborated in more detail. Finally, a multivariate analysis of Variance (MANOVA) was conducted to investigate the influence of independent variables (country, gender, generation) on the dependent variables.

3 Results

From all 1,458 participants, 43% were male and 57% were female. As we can see in Table 1, the mostly represented generation group was the Gen Y (63.8%), followed by Gen X (22.6%). Our sample from South Africa was the biggest one (69.1%). Social media mostly applied by the respondents are Facebook (85.8%) and YouTube (80%). Around 45% of the respondents use Instagram, LinkedIn and Google+, the remaining

Table 1. Overall outcomes of the online survey.

General characteristics N = 1,458	
<i>Gender</i>	
Male	43%
Female	57%
<i>Generations</i>	
Silver Surfers	4.2%
Gen X	22.6%
Gen Y	63.8%
Gen Z	9.5%
<i>Country</i>	
Germany	25.5%
Poland	5.3%
South Africa	69.1%
<i>Social media users</i>	
Facebook	85.8%
YouTube	80.0%
Instagram	45.7%
LinkedIn	44.7%
Google+	44.0%
Twitter	36.3%
Pinterest	18.6%
9GAG	14.0%
Xing	6.4%
Tumblr	5.8%
Flickr	2.5%
Foursquare	1.7%
YouNow	0.6%

platforms are applied by less than 40%. The least popular social media platforms, Flickr, Foursquare and YouNow, with usage probability of less than 3%, will not be included in further analysis.

3.1 General Cross-Cultural Differences

Table 2 shows the probability of use (or the percentage of participants using the platform) and the mean frequency of usage (between 1 “seldom” and 7 “always online”) of the ten investigated social media platforms in Germany, Poland and South Africa. It appears that the use of Facebook is similar in all three countries (it is the mostly and most frequently applied platform), however, slightly less popular in South Africa (84% adoption probability as compared to 90% in Germany and 95% in Poland). Instagram is most popular in South Africa, but if applied, then most frequently in Poland (5.64). YouTube is mostly applied in Germany (86%) and most frequently in Poland (5.31).

Table 2. Cross-cultural differences in social media usage probability (P) and mean usage frequency (F).

F(P)	Germany N = 372	Poland N = 78	South Africa N = 1008
Facebook	5.69 (90%)	5.95 (95%)	5.31 (84%)
Instagram	4.93 (41%)	5.64 (46%)	4.88 (48%)
YouTube	4.87 (86%)	5.31 (83%)	4.41 (78%)
Tumblr	4.77 (8%)	4.13 (21%)	3.67 (4%)
9GAG	4.47 (29%)	4.00 (3%)	3.71 (9%)
Twitter	3.82 (35%)	3.00 (9%)	3.61 (39%)
LinkedIn	3.52 (13%)	2.20 (6%)	3.51 (59%)
Pinterest	3.48 (13%)	3.00 (4%)	3.44 (22%)
Xing	3.23 (25%)	–	3.00 (0.3%)
Google+	2.64 (21%)	4.00 (51%)	4.10 (52%)

The platform Tumblr shows the biggest divergence between the countries, as for Germany and South Africa the adoption probability lies under 10%, whereas in Poland it is 21%. However, the continuous usage is most frequent in Germany (4.77). The platform 9GAG shows the next biggest divergence. It is mostly and most frequently applied in Germany (29%), as compared to under 10% in Poland and South Africa. Twitter is least popular in Poland (9%), but very popular in Germany in South Africa (over 30%). The business platform LinkedIn is most popular in South Africa (59%), less popular in Germany (13%) and even less in Poland (6%). A similar difference is given for Pinterest, most popular in South Africa (22%), followed by almost half as many users in Germany (13%), and even less in Poland (4%). The business network Xing is only popular in its origin country Germany (25%). Google+ is most popular in South Africa and Poland (slightly over 50%), and half as much popular in Germany (21%).

Table 3 includes the mean importance values for the factor “social interaction” while using the investigated platforms. The social interaction was most important on Instagram (especially in Poland, 3.778) and LinkedIn (especially in South Africa, 3.72, and Germany, 3.574). As for German users, this factor is most important on LinkedIn and Xing (mean over 3.0), which are both business networks, and least important on YouTube (1.356) and 9GAG (1.455), but also Google+ (1.608). As for the Polish sample, social interaction is most important on Instagram, followed by Facebook (3.365) and Tumblr (3.188), and not at all important for Pinterest (1) and 9GAG (1). Regarding the participants from South Africa, social interaction is most important on LinkedIn (3.72), Xing (3.33; again, two business networks) and Instagram (3.26). It is least important for Pinterest (1.913), YouTube (1.81) and 9GAG (1.85). These three platforms also got the lowest values in the context of social interaction in all three countries.

Table 3. Cross-cultural differences in average importance of social interaction while using social media (scale 1–7, where 1 indicates the lowest and 7 the highest importance level).

Social interaction	Germany	Poland	South Africa
Facebook	2.054	3.365	2.802
Twitter	2.192	2.714	2.594
Instagram	2.947	3.778	3.263
LinkedIn	3.574	2.800	3.721
Xing	3.451	–	3.333
Google+	1.608	2.050	2.683
Pinterest	1.900	1.000	1.913
YouTube	1.356	2.000	1.810
Tumblr	2.767	3.188	2.103
9GAG	1.455	1.000	1.851

Table 4 shows the mean importance values for the factor “approval seeking” while using the investigated platforms. Here, almost all values are under the mean of 4, except for LinkedIn usage in South Africa (4.235). For all three countries, the highest values of approval seeking are given for the networks LinkedIn, Instagram and Xing (except for Poland, where this platform is not broadly adopted). As for the German users, approval seeking is most applied on Instagram, LinkedIn, Tumblr and Xing. The least approval seeking values are given for Google+ and 9GAG. Regarding the participants from Poland, the highest values of approval seeking are given for Instagram, Tumblr, Facebook, and LinkedIn, whereas the lowest ones for Pinterest and Google+. For the South African participants, the highest approval seeking values are given for LinkedIn, Instagram and Xing, and the lowest one for YouTube.

The mean importance values of privacy are shown in Table 5. They are overall much higher than the values for social interaction or approval seeking. Especially for German users, where all the values are above 5. The highest ones are given for Tumblr, Facebook and Xing, whereas the lowest one (5.044) is given for YouTube. As for

Table 4. Cross-cultural differences in average importance of approval seeking while using social media.

Approval seeking	Germany	Poland	South Africa
Facebook	2.275	3.135	2.855
Twitter	2.177	2.286	2.398
Instagram	3.322	3.883	3.361
LinkedIn	3.447	3.000	4.235
Xing	3.121	–	3.333
Google+	1.633	1.900	2.310
Pinterest	2.020	1.000	2.320
YouTube	1.433	1.848	1.773
Tumblr	3.433	3.438	2.282
9GAG	1.450	2.000	2.011

Poland, there are bigger divergences between the privacy needs on different platforms. The highest values are given for 9GAG and Pinterest (7), and the lowest one for YouTube (3.923). As for South African users, the values oscillate between 4.333 (Xing) and 5.664 (Facebook). Other high values are given for Pinterest and Instagram, whereas lower ones for YouTube and Tumblr.

Table 5. Cross-cultural differences in average importance of privacy while using social media.

Privacy	Germany	Poland	South Africa
Facebook	5.585	4.541	5.664
Twitter	5.138	4.000	5.176
Instagram	5.210	4.472	5.541
LinkedIn	5.191	4.000	5.396
Xing	5.593	–	4.333
Google+	5.494	3.775	5.275
Pinterest	5.260	7.000	5.601
YouTube	5.044	3.923	4.973
Tumblr	5.767	4.000	4.667
9GAG	5.241	7.000	5.362

3.2 Generation-Dependent Differences

Another factor possibly influencing the usage of social media is the age of the user. The following tables show the usage probability and the mean use frequency of social media by different generations, separately for each country. In Table 6 presented are the outcomes for German users. The most popular platforms among all generations are Facebook and YouTube. Facebook is most popular among Gen X and Gen Y (above 90%), whereas the usage probability of YouTube is very similar for all four generational groups (80%–87%). Twitter is also equally popular among all generations

(between 30% and 39%). When considering Instagram, there is a noticeable decrease in popularity with the age of the users, starting from 59% for the youngest generation (Gen Z), through 35%–40% for Gen X and Gen Y, to only 8% for the Silver Surfers. The business network Xing and LinkedIn are most popular among the Gen X. Google+ is more popular among older generations (Silver Surfers and Gen X; 33%–32%) rather than the younger ones (19%–24%). As for the mean usage frequency, the most frequently used services are Facebook and YouTube. Despite Facebook, Silver Surfers apply Instagram, Twitter and Google+ most frequently. Gen Y applies 9GAG, Twitter and YouTube more frequently than other platforms. Most frequently used services by Gen Y are Instagram, followed by YouTube and 9GAG. Finally, Gen Z uses YouTube (5.29) and Tumblr (5.17) even more frequently than Facebook (4.97).

Table 6. Cross-generational differences in social media usage probability (P) and mean usage frequency (F) in Germany.

Germany F(P)	Silver	Gen X	Gen Y	Gen Z
Facebook	5.66 (75%)	5.79 (92%)	5.71 (95%)	4.97 (67%)
Twitter	4.50 (33%)	4.36 (30%)	3.58 (35%)	4.55 (39%)
Instagram	6.00 (8%)	3.61 (35%)	5.13 (40%)	4.77 (59%)
LinkedIn	2.67 (25%)	3.93 (38%)	3.40 (11%)	–
Xing	2.33 (25%)	3.47 (57%)	3.26 (24%)	1.00 (4%)
Google+	4.50 (33%)	3.23 (32%)	2.30 (19%)	2.92 (24%)
Pinterest	–	3.60 (14%)	3.40 (15%)	4.00 (9.8%)
YouTube	4.20 (83%)	4.25 (86%)	4.90 (87%)	5.29 (80%)
Tumblr	–	1.50 (5%)	4.95 (8%)	5.17 (12%)
9GAG	1.00 (8%)	5.00 (3%)	4.52 (34%)	4.28 (25%)

Table 7 presents the social media usage probability and mean frequency of Polish participants. The most popular platform is Facebook, applied mostly by Gen Z (98%). It is followed by YouTube, which is applied mostly by Gen Y (100%). As for the oldest generation, they only apply Facebook, Google+ and YouTube, however, quite regularly (6.0). Gen X prefers, despite Facebook, YouTube and Google+, also Instagram and LinkedIn (22%). They use Facebook and Instagram most frequently (6.0). Gen Y is most probable to use YouTube and Facebook, but also Pinterest and LinkedIn (25%). The most frequently applied networks are Facebook (6.0) and YouTube (5.13). Finally, Gen Z applies all social networks except for Xing. The most popular ones are Facebook (98%), YouTube (81%), Instagram (56%), and Google+ (56%). The most frequently used services are Facebook, Instagram and YouTube, whereas least frequently used are LinkedIn and Twitter.

In Table 8 presented are the social media usage outcomes of South African participants. Here, the oldest generation, Silver Surfers, prefers Facebook (45%) and YouTube (43%), followed by LinkedIn (38%) and Google+ (30%). The remaining platforms are applied by under 10% of the Silver Surfers. Interestingly, they apply Xing most frequently, followed by Instagram and Facebook. Gen X has similar preferences

Table 7. Cross-generational differences in social media usage probability (P) and mean usage frequency (F) in Poland.

Poland F(P)	Silver	Gen X	Gen Y	Gen Z
Facebook	6.00 (50%)	6.00 (89%)	6.00 (88%)	5.93 (98%)
Twitter	–	5.00 (11%)	–	2.67 (10%)
Instagram	–	6.00 (22%)	4.00 (13%)	5.67 (56%)
LinkedIn	–	2.50 (22%)	2.00 (25%)	2.00 (2%)
Xing	–	–	–	–
Google+	6.00 (50%)	4.80 (56%)	4.00 (13%)	3.83 (56%)
Pinterest	–	0.00 (0%)	3.00 (25%)	3.00 (17%)
YouTube	6.00 (50%)	4.33 (89%)	5.13 (100%)	5.51 (81%)
Tumblr	0%	2.00 (11%)	–	4.27 (25%)
9GAG	–	5.00 (11%)	–	3.00 (2%)

for SNS adoption, whit general higher probability of Facebook, LinkedIn and YouTube adoption. For them, the least popular platforms (under 5%) are Xing, Tumblr and 9GAG. However, they use Facebook and Google+ most frequently. Gen Y applies most of the investigated services, except Xing (0.3%) and Tumblr (4%). They apply Facebook, Instagram and YouTube most frequently. Finally, Gen Z is most probable to apply Facebook (96%), followed by Instagram (93%), and YouTube (86%). The least applied networks are Xing (none) and 9GAG (7%). Similar to Gen Y, they use Facebook, Instagram and YouTube most frequently.

Table 8. Cross-generational differences in social media usage probability (P) and mean usage frequency (F) in South Africa.

South Africa F(P)	Silver	Gen X	Gen Y	Gen Z
Facebook	4.24 (45%)	5.05 (77%)	5.45 (88%)	5.15 (96%)
Twitter	4.00 (9%)	3.62 (31%)	3.59 (44%)	3.90 (36%)
Instagram	4.75 (9%)	4.00 (26%)	5.04 (58%)	5.19 (93%)
LinkedIn	2.72 (38%)	3.33 (58%)	3.65 (63%)	2.22 (32%)
Xing	6.00 (2%)	–	1.50 (0.3%)	–
Google+	3.82 (30%)	4.52 (55%)	3.94 (52%)	3.78 (64%)
Pinterest	1.67 (6%)	3.67 (20%)	3.41 (23%)	2.83 (21%)
YouTube	3.91 (43%)	4.05 (72%)	4.56 (82%)	4.72 (86%)
Tumblr	3.00 (2%)	4.17 (2%)	3.55 (4%)	4.00 (11%)
9GAG	4.00 (2%)	4.13 (3%)	3.65 (13%)	4.00 (7%)

T-test Results for Silver Surfers. In the following only significant outcomes of the t-test between the different generations in U&G and privacy factors will be elaborated. Regarding the differences between Silver Surfers and other generations, as for the German sample they care less about social influence on Instagram (−0.9), approval (−0.97), or even privacy (−2.03) on Instagram. They are also slightly less interested in

social interaction (-0.27), approval (-0.28), or privacy (-0.73) on Pinterest. The mean differences for Tumblr are also negative, for social interaction (-0.23), approval seeking (-0.29), and privacy (-0.48). Finally, they care less about social interaction (-0.36), approval (-0.35), and privacy (-1.49) on 9GAG.

As for Polish Silver Surfers, they are less interested in social interaction (-0.25), approval (-0.21), or privacy (-0.37) on Twitter as well as on Instagram (-1.79, -1.82 and -2.12 respectively). As for the business network LinkedIn, they care less about social interaction (-0.18), approval (-0.2), or privacy (-0.26). Finally, the results indicate significant negative differences in the importance of social interaction (-0.67), approval seeking (-0.72), or privacy (-0.84) on Tumblr.

Regarding our South African sample almost all differences were significant on at least 5%-level. Most of the differences were negative, like for the other two countries. As for Facebook, there are negative differences for social interaction (-1.14), approval seeking (-1.32), and even privacy (-2.55). The outcomes for Twitter are also negative: social interaction (-0.75), approval seeking (-0.67), and privacy (-1.64). As for Instagram, there is less interest in social interaction (-1.36), approval (-1.39), and privacy (-2.25). Furthermore, the Silver Surfers have less interest in social interaction (-1.1), approval (-1.1), or privacy (-1.35) on LinkedIn. Interestingly, there is slightly more interest in social interaction (+0.08), approval seeking (+0.08), and privacy (+0.14) on another business network, Xing. This is the only platform with positive mean differences. As for Google+, there is slightly less interest in social interaction (-0.7), approval (-0.63), or privacy (-1.09). For Pinterest, the mean differences are also very small: social interaction with -0.34, approval seeking with 0.37, and privacy with -0.96. The mean differences for YouTube usage by Silver Surfers are also negative, social interaction with -0.7, approval seeking with -0.73, and privacy with total -2.17. There is one significant, however, small difference in usage of Tumblr – the importance of privacy (-0.14). Finally, Silver Surfers care less about social interaction (-0.16) or privacy (-0.44) on 9GAG.

T-test Results for Gen X. When compared to Silver Surfers, there were less significant outcomes for mean differences between social media usage by Gen X and other generations. As for Germany, there were few positive differences, like the importance of privacy on Facebook (+0.87), LinkedIn (+2) and Xing (+2.65). Furthermore, this generation cares more about social capital on LinkedIn (+1.24) and Xing (+1.25) as well as approval (+1.11 and +1.07 respectively). Also, Gen X'ers appear to be more interested in privacy on Google+ (+1.08). However, they care less about social interaction (-0.39), approval (-0.41), or privacy (-1.66) on 9GAG. Finally, they care less about social interaction (-0.19) and approval (-0.25) on Tumblr. As for Polish Gen X participants, they are less interested in social capital (-1.47) and approval (-1.37) on Instagram. The same holds for Tumblr (-0.61 and -0.67, respectively). The remaining differences in mean values were not statistically significant. Regarding the Gen X participants from South Africa, they are less interested in social interaction (-0.56) or approval (-0.56) on Facebook. They are also less interested in social capital (-0.5), approval (-0.4), or privacy (-0.56) on Twitter, as well as social capital (-1.37), approval (-1.39) and privacy (-1.57) on Instagram. Furthermore, the approval on LinkedIn is less important (-0.37). As for YouTube, they are less interested in social

capital (−0.34) and approval (−0.33). Finally, there are less interested in social capital (−0.18) and approval (−0.2) on 9GAG as well as on Tumblr (−0.07 and −0.08 respectively).

T-test Results for Gen Y. There are only few significant differences between Gen Y and other generations for German and Polish sample. As for German Gen Y participants, they care more about privacy on Facebook (+0.79), however, less about privacy on LinkedIn (−0.47). They are also less interested in social interaction (−0.27), approval (−0.24), and privacy (−0.57) on Google+. In turn, they care slightly more about social interaction (+0.25), approval (+0.24), and privacy (+1.06) on 9GAG. As for Polish Gen Y users, they care less about approval on Facebook (−1.5) and social interaction (−0.27), approval (−0.23) and privacy (−0.4) on Twitter. Also, they are less interested in social interaction (−1.8), approval (−1.83) and privacy (−2.02) on Instagram. As for the business network LinkedIn, they care more about social capital (+0.91), approval (+0.9), and privacy (+1.25). In turn, they are less interested in social interaction (−1.03), approval (−0.95), and privacy (−2.02) on Google+ and on Tumblr (−0.73, −0.79 and −0.91 respectively). Finally, they are more interested in social interaction (+0.24), approval (+0.24) and privacy (+1.65) on Pinterest. As for the South African Gen Y participants, there are many significant positive differences. As for Facebook, they are more interested in social interaction (+0.54), approval (+0.59) and privacy (+0.65). The same holds for Twitter (+0.54, +0.45, and +0.83 respectively) and Instagram (+1.19, +1.23, and +1.53 respectively). This Gen Y is also more interested in social capital (+0.56) and approval (+0.66) on LinkedIn. They are also slightly more interested in social interaction on Pinterest (+0.14) than other generations. Finally, they care more about social interaction (+0.41), approval (+0.38), and privacy (+0.41) on YouTube. The same holds for 9GAG (+0.2, +0.19, and +0.52 respectively).

T-test Results for Gen Z. Finally, the significant t-test results for the generation Z are elaborated. As for Germany, Gen Z is less interested in social interaction (−0.85), approval (−0.7), or privacy (−1.72) on Facebook. However, they care more about these aspects on Instagram (+0.67, +0.65, +1.05 respectively). As for the business network LinkedIn, they care less about social interaction (−0.52), approval (−0.5) or privacy (−0.76) than other generations. The same holds for Xing (−0.93, −0.84 and −1.3 respectively). As for the Gen Z from Poland, they are way more interested in approval on Facebook (+1.71) as well as social capital (+2), approval (+1.92), and privacy (+1.96) on Instagram. Finally, they are less interested in social interaction (−0.67), approval (−0.65), and privacy (−0.91) on LinkedIn. Finally, the Gen Z users from South Africa are more interested in social capital (+1.45) and approval (+1.37) on Facebook as well as social capital (+2.41), approval (+2.21) and privacy (+2.47) on Instagram. In turn, they care less about social capital (−1.54) and approval (−1.05) on LinkedIn.

3.3 Gender-Dependent Differences

The following analysis concerns the differences in social media usage between male and female users for each country separately (Tables 9 and 10). As for German users, women are more likely than men to apply Facebook, Instagram, Google+, Pinterest and

Tumblr. The mean usage frequencies are partially comparable. Men use Facebook and YouTube most frequently, whereas Google+, Pinterest and Xing least frequently. As for women, they use Facebook, Tumblr and Instagram most frequently, whereas, Google+, Xing and LinkedIn least frequently.

Table 9. Cross-cultural differences in social media usage probability (P) and mean usage frequency (F) of male users.

Men F(P)	Germany	Poland	South Africa
Facebook	5.74 (87%)	5.71 (91%)	5.09 (80%)
Twitter	3.50 (42%)	2.00 (4%)	3.85 (43%)
Instagram	4.67 (31%)	5.13 (35%)	4.79 (44%)
LinkedIn	3.45 (16%)	3.00 (4%)	3.59 (68%)
Xing	3.18 (27%)	–	4.00 (0.4%)
Google+	2.46 (19%)	3.90 (43%)	3.85 (50%)
Pinterest	2.86 (6%)	–	3.26 (12%)
YouTube	5.35 (92%)	5.29 (87%)	4.69 (85%)
Tumblr	3.29 (6%)	4.00 (4%)	4.00 (5%)
9GAG	4.33 (40%)	–	3.84 (13%)

As for the Polish participants, both gender are most likely to use Facebook, YouTube and Google+. Women also prefer Instagram (51%). Regarding the mean usage frequencies, Polish men use Facebook, Instagram and YouTube most frequently, whereas Twitter and LinkedIn least frequently. As for women, they apply Facebook, Instagram, and YouTube most frequently, whereas LinkedIn and Pinterest least frequently.

Finally, as for participants from South Africa, both, men and women, are most likely to apply Facebook and YouTube. The male participants apply Facebook, Instagram and YouTube most frequently, whereas Pinterest and LinkedIn least frequently. As for the female participants from South Africa, they apply Facebook most frequently, followed by Instagram and Google+, whereas Xing and Tumblr least frequently.

Like for the different generations, we conducted a two-sided t-test for the U&G and privacy values and elaborate the significant differences between male and female users. Regarding German participants, female users are slightly less concerned about privacy on Facebook (−0.95), however, care more about approval (+0.52) and privacy (+0.93) on Instagram than men. Furthermore, female German users care more about approval (+0.21) and privacy (+0.7) on Pinterest, however, less about social interaction (−0.35) or approval (−0.41) on YouTube. As for Tumblr, women care slightly more about social interaction (+0.25) and approval (+0.28) than men. Finally, female users care less about social interaction (−0.23), approval (−0.27), or privacy (−0.69) on 9GAG.

As for Polish participants, the only significant difference between male and female users is given for the platform Tumblr. Apparently, women care a little bit more about social interaction (+0.87), approval (+0.94), and privacy (+1.04).

Table 10. Cross-cultural differences in social media usage probability (P) and mean usage frequency (F) of female users.

Women F(P)	Germany	Poland	South Africa
Facebook	5.66 (92%)	6.04 (96%)	5.49 (87%)
Twitter	4.04 (31%)	3.17(11%)	3.34 (35%)
Instagram	5.03 (46%)	5.79(51%)	4.96 (51%)
LinkedIn	3.57 (11%)	2.00 (7%)	3.42 (51%)
Xing	3.26 (23%)	–	1.00 (0.2%)
Google+	2.71 (23%)	4.03 (55%)	4.31 (54%)
Pinterest	3.58 (17%)	3.00 (6%)	3.51(30%)
YouTube	4.62 (83%)	5.33 (82%)	4.09 (71%)
Tumblr	5.22 (9%)	4.13 (27%)	3.13 (3%)
9GAG	4.59 (24%)	4.00 (4%)	3.46 (6%)

Finally, regarding the participants from South Africa, women appear to care more about approval (+0.36) and privacy (+078) on Facebook as well as privacy on Instagram (+0.71). In turn, they are less interested in social interaction (−0.29) and approval (−0.31) on Twitter, as well as social interaction (−0.8), approval (−0.67) and privacy (−0.6) on LinkedIn. Furthermore, women care slightly more about approval (+0.22) and privacy (+0.44) on Google+ as well as social interaction (+0.36), approval (+0.35) and privacy (+1.08) on Pinterest. In turn, they are less interested in social interaction (−0.4) and approval (−0.4) on YouTube, as well as social interaction (−0.1) or privacy (−0.44) on 9GAG, than men.

3.4 Multivariate Analysis of Variance Between Countries, Genders and Generations

First, a three-way MANOVA test was conducted to compare differences in social media usage frequency as well as the two uses and gratification scales and importance of privacy, dependent on country of origin, generation and gender. There was no statistically significant three-way interaction between country, generation and gender regarding usage frequency. However, there was a statistically significant country*generation interaction for Facebook, Instagram, Xing and 9GAG.

Regarding the “social interaction” factor, there was statistically significant three-way interaction between country, generation and gender $F(4, 1436) = 3.751, p = .005$ for Facebook. Furthermore, there was a statistically significant country*generation interaction for Facebook, Instagram, LinkedIn and Xing, as well as generation*gender interaction for Facebook.

Concerning the “approval seeking” factor, there was no statistically significant three-way interaction between country, generation and gender. There was a statistically significant country*generation interaction for Facebook, Instagram, LinkedIn and Xing.

Finally, regarding the importance of privacy, there was no statistically significant three-way interaction between country, generation and gender. There was a statistically

significant generation*country interaction for Facebook, Instagram, LinkedIn, Xing, and 9GAG.

4 Discussion and Conclusion

The results offer broad insights into the research field of geographical and cultural differences in social media interaction. Major implications can be drawn by our findings. First, when considering solely geographical issues, we find striking differences for Poland with regard of consuming videos via social media, i.e. YouTube, and mobile content, i.e. Instagram. Polish social media users are more receptive to those features than those from Germany and South Africa. Interestingly, we can rule out that spatial proximity in general can serve as an explanatory approach for the observed differences, since Germany and Poland are sharing borders, whereas South Africa is located on a different continent. We rather argue that a bundle of socio-economic factors, such as the political orientation, demography and the availability of social media products serve to explain cultural differences in social media use.

Furthermore, when considering age structures of the users, certain patterns in the use of social media are cross-culturally consistent. Younger generations tend to discover and occupy new media forms, such as Instagram, and simultaneously exhibit an increasing tendency to move away from established platforms, such as Facebook and Twitter. This finding serves moreover as evidence that generational shifts towards more mobile oriented social media interaction are taking place.

This study also shows striking differences in the perception of privacy concerns with regard to gender. In South Africa, females tend to care substantially more about privacy issues on social media platforms, similarly to Polish female users, when compared to their German counterparts. Again, our results show that pure partial proximity issues cannot explain those geographical differences. Possible reasons are rather bound by historical and socio-economic issues, particularly with regard to the status quo of gender equality.

Overall, our study emphasizes that cross-cultural differences in social media cannot be explained by generally-valid patterns. Studies on social media have to be scrutinized with regard to a bundle of specific socio-economic factors. Thus, social media can also be seen as a reflection of the current state of a certain society. This implicates that future studies have to refrain from generalizing empirical findings in social media research for geographical contexts.

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