

Young consumers in the digital era: The selfie effect

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Funding information

Norwegian Ministry of Children and
Equality

Abstract

This article investigates a mechanism named the selfie effect. By their frequent sharing of selfies on social media, perhaps displaying their cool new fashions or newly acquired tattoos, young people—unintentionally—help providers to promote their products and services, and thereby contribute to the commercial pressure. The existence of a selfie effect builds on hypotheses originating from a pilot interview study concerning how young adults master the consumer role. In this article, the existence of a selfie effect is investigated in a nationally representative web survey with 1,707 respondents aged 16–60, living in Norway. While 59% of the teenagers said they were posting selfies weekly or more often, only 2% among those in their fifties did. The multivariate quantitative analyses support the idea that teenagers and young adults, frequently online, become vulnerable in the consumer role. Particularly posting selfies and following bloggers increase consumer detriment and overconsumption.

KEYWORDS

age-related consumption, commercial pressure, consumer detriment, consumer vulnerabilities, digital practice, gendered consumption, overconsumption, selfie-effect, Young consumers

1 | INTRODUCTION

This article investigates the existence of a mechanism named the selfie effect, claiming it exposes particularly young people to commercial forces online. More precisely, by their frequent sharing of selfies, young people—unintentionally—forward and proliferate commercial actors' messages about what are currently the most popular brands, requisites and activities.

It was two female students—participating in a pilot interview study exploring how young people relate to commercial pressure—who formulated the statements that led to the assumption of a selfie effect: *"It probably has something to do with social media. Taking selfies every day. Beginning to study oneself. Everything is wrong, and everything can be fixed, not only the face, but the entire body"*. Her friend added: *"I am quite sure that my parents' generation were not looking at themselves, and comparing themselves with others, as much as we do"* (Berg, 2016).

These statements are given extra significance by Kolnar (2016), who argues that in consumer societies, choices are not driven by needs, but by created desires. By making people involved in inexperienced comparisons of bodies and belongings, creating a constant identity deficit, providers cause people to "buy things they don't need, for money they don't have, to impress people they don't like".

The claim of this article is that the practice of posting selfies on social media is a significant driver of commercial pressure, promoting overconsumption and consumer detriment. The selfie effect is expected to be particularly strong among young adults because they often strive to fit in with their peers, and because their frequent online presence makes them more sensitive and exposed to the commercial pressure inherent in selfie messages.

After the mentioned qualitative pilot, the existence of a selfie effect was investigated in a quantitative Norwegian web survey among 1,707 respondents aged 16–60 years. We asked: "Do selfie frequencies affect consumer detriment, overconsumption and the consumption of expensive status products?"

2 | BACKGROUND FOR THIS STUDY

Being young can be described as the vulnerable transition period from childhood to adulthood, from being protected by parents to becoming independent (Frønes & Brusdal, 2000). In consumer societies, this transition period certainly also implicates becoming more financially independent and responsible as a consumer (Brusdal & Berg, 2010; Xiao et al., 2014). Young people are debutants in many—often complex—markets, and therefore expected to be particularly vulnerable in the consumer role (Berg, 2015a, 2016; Hall, 2014). In the digital area,

however, young people are leaders. According to self-reports, young people are both more active and experienced online and more digitally capable than older people are (European Commission, 2015; Slettemeås, 2014).

2.1 | Consumer vulnerability

The study presented in this article is part of an ongoing project¹ focusing on consumer vulnerability (Berg, 2015a, 2016). Consumer vulnerability studies, building on sociological and behavioural economics approaches, acknowledge that consumers are not rational actors that make fully informed and optimal choices in markets. Rather, people are vulnerable in the consumer role. There is no common agreement on how to define and operationalize 'consumer vulnerability' (for an overview see European Commission, 2016a). In this article, vulnerability is understood as increased risk for consumer detriment. In addition, because the selfie-effect mechanism is defined by its commercial pressure potential, we also include overconsumption and increased probability of buying expensive, status products in the operationalization of the concept. We agree with the European Commission (2016a) that all consumers—moving in and out of more or less risky market situations—may be vulnerable from time to time. Still, some groups are experiencing more consumer detriment, and are more exposed and vulnerable to commercial pressures, than others.

When we started investigating consumer vulnerabilities, we believed that older people—often lacking digital competences and equipment—were particularly vulnerable in today's digitalized consumer reality. However, results from a telephone survey among 2,100 respondents aged 18–95, demonstrated—on various measurements—that it was young consumers—not the old—who were more likely to make unfortunate consumer choices in markets. In multivariate analyses, the main vulnerability drivers were distinguished: Among 16 tested drivers, lack of time, lack of calculating skills and lack of economic awareness proved to be significant drivers of consumer vulnerability. In addition, contrary to our expectations, one assumed driver—lack of digital capability (digital equipment and skills)—appeared to be protecting against consumer vulnerability (Berg, 2015a).

One possible explanation for this last unexpected driver is that digital capability not only represents better access to information portals, digital markets and digital payments, it also represents increased risk of fraud and exposure to individually directed digital marketing, because it is correlated with more frequent online activity. Actually, the Net Children Go Mobile 2014 survey finds that high online activities among children and teenagers increase their digital skills, but do not prevent against online risks like receiving sexual messages, cyberbullying and other negative online experiences (Mascheroni & Ólafsson, 2014). Commercial pressure is not included in the aforementioned survey, but other studies give examples of how unwanted marketing directed

towards children affects their behaviours (Lupiáñez-Villanueva et al., 2016). Several studies give reason to believe that young people's frequent use of social media makes them more exposed to tailored digital marketing and that digital media reinforce the commercial pressure on young people (European Commission, 2016b; Kjørstad, Brusdal, & Ånestad, 2010; Livingstone, Haddon, & Görzig, 2012; Rysst & Roos, 2014; Storm-Mathisen, Kjørstad, & Bugge, 2015).

Hence, the next step in the consumer vulnerability project was to search for mechanisms that could explain consumer vulnerabilities among young people. We particularly wanted to explore the probable digital vulnerability driver—that is, that online practices could increase vulnerabilities. We began with a pilot, interviewing 14 young people aged 19–23, living in Norway and encountered the selfie effect (Berg, 2016).

2.2 | The selfie effect

The selfie effect is a catalyst for commercial pressure. The overt meaning of sharing selfies is to connect socially, confirming friendship. The covert message, however, can be read as self-marketing, often supported by commercial identifiers, like status products or places. By sharing selfies, perhaps displaying their cool new fashions, young people—unintentionally—help providers to promote their products, and hence contribute to the commercial pressure. Many informants emphasized precisely how their own preferences were influenced by those of their peers: "I think perhaps that the commercial pressure comes more from your peers and friends, rather than from ads". As explained by Bourdieu (1979), when people want to fit in with a specific group, they tend to imitate their taste, dress code, practices and preferences. And, as described by Brusdal (2005), young adults intensively want to fit in with their peers, often signalling who they are and the group they (want to) belong to through commercial identity markers.

As expected (cf. European Commission, 2015; Slettemeås, 2014), informants proved to be frequent users of social media and, especially the young men, regarded themselves as highly digitally capable. Still, one strong impression, independent of digital capability, was that young people seldom worry about all the digital tracks they leave online, or what kind of surveillance they accept when downloading an app. One informant said: "Every time you update the phone, you need to accept looong conditions, page up and down, but you never read it, really". His friend added: "The problem is, if you don't accept, you're not allowed to use the product, let's say the iPhone. Anyway, I do not have too much to hide...". It takes 37 hr to read—word by word—all the app terms and conditions on an average smartphone. Therefore, people do not read the terms and conditions, they just accept and agree to reveal their personal data—like pictures, positions, messages and contacts—when they install an app (Norwegian Consumer Council, 2016).

The selfie effect arises from encounters between smart market actors and slightly naïve or powerless consumers. On one hand, we have the supply side, characterized by an increasingly more sophisticated marketing sector taking advantage of digital tracks people leave online, using algorithms for smart, targeted marketing (Lobaugh et al., 2015). On the other, we have young people, newcomers and

¹The Norwegian vulnerability project is a collaboration between The Norwegian Ministry of Children and Equality, The Consumer Authority The Consumer Council and SIFO at Oslo Metropolitan University. Representatives from these institutions meet regularly and discuss the vulnerability project, other consumer studies and consumer policy in general.

inexperienced debutants in many consumer markets (Hall, 2014). They are frequent users of social media, hence not only competent (European Commission, 2015; Slettemeås, 2014) but also vulnerable to digital commercial exposure (Kjørstad et al., 2010; Rysst & Roos, 2014; Storm-Mathisen et al., 2015).

2.3 | The ads struggle

There is an ongoing struggle between, on the one hand, consumers who do not want to be disturbed by commercials in their everyday activities, and on the other hand, suppliers and the marketing industry trying to influence consumers' wishes and wants. People record TV programs to bypass and escape commercials, and they install ad blockers in their browsers to escape online ads (Eidsaether, 2016). Such individual preventions, however, only trigger the marketing industry to invent new ways to circumvent such individual protection mechanisms.

The high usage of digital media opens new opportunities for marketing. An important trend currently is targeted advertising (Curtis, 2016; Hawkins, 2016): Advertisers and marketers acknowledge that consumers have unequal opportunities and different commercial desires, not only are old people different from young people, and rich consumers different from poor consumers, but marketers now also distinguish different consumer segments within age, gender and income groups. It is no secret that for marketing purposes, firms can buy rich personal information collected by search engines like Google, by social media like Facebook, by consumer bonus and benefit cards and from so-called 'free' apps allowing the app owner to monitor your photos, e-mails and locations.

All these rich sources of personal data—big data—allow firms to target consumers according to their profile and online activity. Some would say it is an advantage that Amazon can inform you about which books you may prefer given your prior purchases. Others will see this as threatening the freedom to choose (Datatilsynet, 2013).

3 | METHODS

3.1 | The analytical model

The main assumption behind the analytical model is that digital practices, implicitly leaving digital tracks online, make consumers exposed and vulnerable to producers' and providers' digital marketing strategies. In particular, the habit of sharing selfies was expected to contribute to commercial pressure, hence increase the risk of detriment, overconsumption and the consumption of expensive status products. The model presented in Figure 1 includes three groups of explaining variables, that is, digital practices (including sharing selfies), digital capabilities and financial capabilities:

More precisely, we wanted to investigate (a) if consumer vulnerabilities among young adults—measured by consumer detriment, overconsumption and consumption of expensive products—can be explained by young people's digital practices, and (b) if there is an independent selfie effect.

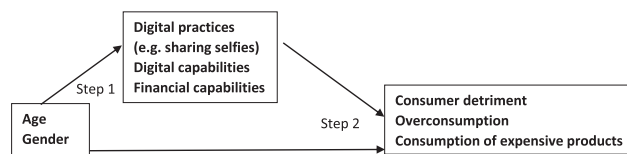


FIGURE 1 Which drivers influence consumption patterns?

3.2 | The dependent variables

Consumer detriment is understood as consumption-related loss of welfare. The detriment index attempts to comprehensively measure consumer vulnerability based on consumers' unfortunate experiences in six markets most people need to visit during a year (foods, clothes/shoes, ICT/electronic products, cosmetics/toiletries, insurance products and bank products). For each market, respondents were asked if they had experienced 'loss of money', 'fraud' or 'injuries/reduced health'. The detriment index counts every unconditional 'yes', ranging from 0 to 18. A serious incidence may give a high score on loss of money, fraud and reduced health and hence give 3 points on the index's scale. This index was first constructed for the Norwegian Market Monitor (Berg, 2015b).

Overconsumption relates to commercial pressure. It is a simplistic, general variable asking if respondents tend to buy things they do not need, ranging from 'never' (1) to 'often' (4). According to informants in the preceding pilot, youth communities are concerned about expensive digital products, branded clothes, designer bags, tattoos, as well as cosmetic surgery. Therefore, also intending to measure consumption reflecting commercial pressure, five proxy variables registering the acquirement of such expensive products and services were included. The reason these five proxy variables are not combined into one index is that consumption of such products was expected to be both age and gender related. Finally, as young people's consumption is often financed by their parents (Brusdal & Berg, 2010), our solution was not to discriminate between products respondents pay for with their own money and products they receive as presents. Therefore, respondents were asked if they had bought, or had received as presents, the mentioned products and services.

The dependent variables 'detriment (0–18)' and 'buy things they do not need (1–4)' were analysed by linear regression analyses, while the remaining five dependent variables referring to specific acquisitions (0–1) are analysed by logistic regression analysis. The estimates from the two different regression models are not directly comparable (beta coefficient vs. odds ratio), and we therefore mainly refer to whether results are significant, and if the effects are positive or negative. One strength of the final multivariate analysis is that we consider seven dependent variables, offering alternative approaches to the main research question. If several regression models show the same pattern, this reinforces the findings.

3.3 | Independent and explaining variables

As this study's main intention was to explore how digital capabilities, unexpectedly, could be a vulnerability driver among young consumers, age is the main independent variable. Consumption is highly gendered

(Berg & Teigen, 2009), and gender is included as a central background variable. The reason we did not include other socio-demographic variables like educational level or social status in the multivariate analyses is that these variables are closely correlated with age (16–60) and may infect the regression models by heteroscedasticity.

Digital activities are the main explaining variables in the regression models. To investigate the existence of a selfie effect, we rely on if, and how frequently, respondents are sharing selfies, that is, 'never' (0), 'seldom' (1), 'monthly' (2), 'weekly' (3), 'daily' (4) or 'several times a day' (5). The same scale is used for measuring how often respondents follow bloggers, YouTubers and online games. Similarly, as digital capabilities were expected to protect against digital vulnerabilities, two proxy variables were included: frequencies of helping others with computers/cellphones, and consulting price-comparing websites. Finally, as individual opportunities in markets depend on a persons' financial capabilities (Sen, 2009), we need to control for that: Economic awareness was considered a protector, while being well off financially was expected to increase overconsumption, but probably not consumer detriment. Both variables are measured on a 1–5 scale.

3.4 | Data collection and sample

During spring 2016, 1,707 respondents between 16 and 60, living in Norway, answered our new questions. As most people between 16 and 60 in Norway have access to computers and smartphones, we decided to collect the material through an online survey (CAWI). The data collection was organized by Norstat Norge AS, Oslo, Norway. To be nationally representative for the age group, results have been weighted according to age, gender and geography. In the bivariate analyses, young people are categorized as teenagers (16–19) and young adults in their twenties (20–29).

4 | RESULTS

In presenting the results, we follow—step by step—the analytical model presented in Figure 1, but first we must investigate the origins of commercial pressures.

4.1 | From where does commercial pressure originate?

Although almost all informants in the young adult pilot possessed an Apple product, most did not recognize, at first, that this fact resulted from some kind of commercial pressure. A 19-year-old man said: "Of course, advertising works. But, actually, I feel, it doesn't affect me". And a young woman stated: "There are many temptations. We buy more than we need. Still I am not forced to buy it. I just really, really want it! I do not call that a pressure". During interviews, with conversations stimulating to self-reflection, many informants realized that their wishes and wants were not dependent only on their own reflected choices and preferences. One informant concluded: "At first, I do not think of it as a pressure. I want that phone or that bag. It is an indirect pressure. I have to think a lot before I may realize it is a commercial pressure".

As exemplified above, interviews made clear that it is not a good idea to ask about 'commercial pressure'. Instead, using informants' own formulations, we asked about where wishes and wants for consumer goods originated. Are young adults' wishes and wants more influenced by their peer group than is the case in other age groups? Can we distinguish the main senders—or mediators—of commercial pressure?

Figure 2 separates between five age groups and nine sources of commercial pressure, ranked according to their prevalence among teenagers and young adults (the two darkest columns). The first impression from the figure is that youngest consumers experience the heaviest

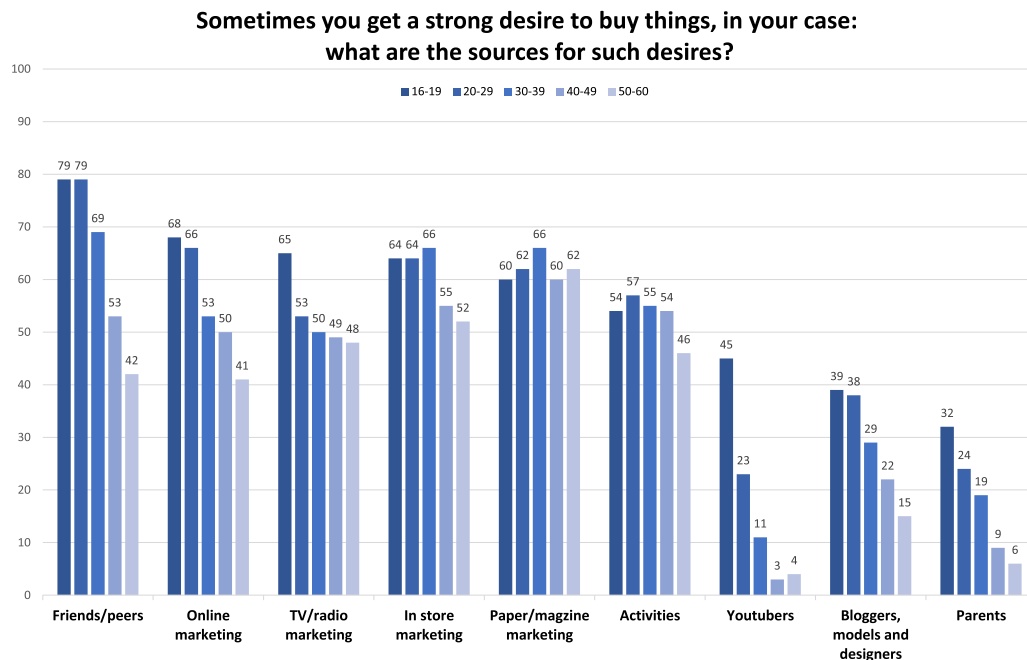


FIGURE 2 Experienced sources of commercial pressure in different age groups. Percentages 'totally' and 'partly' agree. Weighted results. Significant age differences in all categories. (N = 1,707). [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE 1 Digital practices and capabilities (every week or more often) and financial capabilities (very good and good) in different age groups and for women and men (percentages; weighted results, N = 1,707)

	Tot	16–19	20–29	30–39	40–49	50–60	Women	Men
<i>Digital practices:</i>								
Sharing selfies	26	59***	39	18	8	2	32***	21
Following bloggers	10	20***	19	5	3	1	18***	3
Following YouTubers	21	51***	27	17	5	4	14***	28
Online games	19	38***	19	13	14	12	12***	26
<i>Digital capabilities:</i>								
Helping others	19	24***	22	23	15	12	13***	25
Comparing prices online	24	25*	25	27	23	20	15***	33
<i>Financial capabilities:</i>								
Thinking economically	66	56***	65	68	70	70	69*	62
Well off financially	37	38***	23	41	40	47	31***	42

Pearson's chi-square: *** $p < .001$, ** $p < .01$, * $p < .05$. Significance level for age shown in age group 16–19.

commercial pressure. The pattern also supports our informants' observations, that is, that commercial pressure among young people is typically mediated although friends and peers. Most young respondents (79%), and nearly twice as many as those in their fifties (42%), said their desires to buy things were influenced by friends and peers. According to young respondents, online marketing is the second-most important source of commercial pressure (68% compared to only 41% in the oldest age group). The selfie effect is the result of a combination of these two sources.

Only 4% in the oldest age group consider YouTube as a source of commercial desires, compared to 45% of the teenagers, falling to 23% among young adults in their twenties. This age pattern may implicate that YouTubers will have increased importance in the future. Except for papers and magazines, all sources of commercial desires seem to have greater effects on younger than on older people. According to young adults' own considerations, their parents are the least likely to influence their wishes and wants.

4.2 | Possible drivers

Our main hypothesis—the existence of a selfie effect—rests on the assumption that young people—unintentionally—help marketers to spread commercial desires through their habit of sharing selfies. We first map age and gender differences on the explaining variables (Figure 1, step 1):

Table 1 reveals large age and gender differences in digital practices and capabilities, except for small age differences in the tendency to compare prices online and small gender differences in ability to think economically. The younger you are, the more often you take selfies, follow 'pink' bloggers, follow YouTubers, engage in online games and help others with their computers. Among teenagers, 59% said they post selfies every week or more often, compared to only 2% among people in their fifties. And, while 51% of the teenagers follow YouTubers frequently, only 4% among people in their fifties do.

The digital practice variables also confirm that digital practices are gendered: Women share selfies and follow bloggers more often than men do (32% vs. 21%), while men follow YouTubers and play online

games more often than women do (28% and 26% vs. 14% and 12%). Results indicate that men are more active helping others with digital problems (25% vs. 13%), and that more men compare prices online than women do (33% vs. 15%).

The financial capability variables also show differences: Almost half (47%) of respondents in their fifties (47%) said they are financially well off, compared to 38% of teenagers (majority living with their parents). Older more often than younger consumers say they are thinking economically (ranging from 70% to 56%). As expected, more men than women say they are well off financially (42% compared to 21%).

So far, results support our main assumption: young adults are sharing selfies, and are more active, online than older people, and—according to themselves—their wishes and wants are more influenced by friends and social media (Figure 2).

4.3 | Dependent variables

This article's aim was to find explanations for why young consumers appear to be more vulnerable in the consumer role than older consumers are (Berg, 2015a). More precisely, if young people are subject to commercial pressure and consumer detriment more often than older people are. Do young people buy more? And, how gendered is consumption?

Table 2 shows no significant gender differences regarding the tendency to suffer consumer detriment, only age differences. Among teenagers, 42% reported some kind of consumer detriment, compared to the more experienced consumers in their fifties, where 32% confirmed to have experienced detriment during the last 12 months on at least one of 18 detriment possibilities. And, while 53% of teenagers said they often or sometimes buy things they do not need, this is the case for only 28% of those in their fifties. Considering that older consumers make major purchases in households, these differences are quite large.

According to Table 2, teenagers and young adults appear to be profitable targets for providers of expensive consumables. More teenagers confirm to have bought—or gotten as a present—expensive digital products and branded clothes (85% and 65%) than have consumers in

TABLE 2 Percentages who: suffered some kind of consumer detriment during the last 12 months; tend to buy things they do not need often or sometimes (overconsumption); and bought or got as a present five specified products during the last few years (percent; weighted results, N = 1,707)

	Tot	16–19	20–29	30–39	40–49	50–60	Women	Men
Consumer detriment	38	42*	38	41	36	32	39	37
Buy things you do not need	40	53***	42	42	34	28	48***	34
Digital products	72	85***	76	77	68	53	74*	70
Branded clothes	51	65***	53	57	45	33	46***	55
Designer bags	13	13**	16	15	11	6	20***	5
Tattoos	9	7***	17	11	5	3	11*	8
Cosmetic surgery	4	5*	6	4	3	3	5*	3

Pearson's chi-square: *** $p < .001$, ** $p < .01$, * $p < .05$. Significance level for age shown in age group 16–19.

their fifties (53% and 33%). This pattern is kind of a paradox, as people in their fifties often have high purchasing power, while teenagers are normally still going to high school, depending financially on their parents. One might say, however, that the oldest age group is the parent generation of the youngest age group, and that it is quite likely parents in their fifties who actually finance the expensive clothes and digital products in the teenager group.

It is young adults in their twenties who top the consumption ranking regarding designer bags (16%), tattoos (17%) and even cosmetic surgery (6%). While it is primarily women who buy designer bags (20% vs. 5% of the men), the tendencies to buy tattoos and other cosmetic surgeries (fixing lips, breasts, noses, wrinkles, etc.) are less gendered.

4.4 | Is there a selfie effect?

There is reason to believe that both age and selfie frequencies affect consumer practices. Table 3 shows how age and selfie frequencies correlate with the dependent vulnerability measurements. In the subsequent Table 4, it is investigated whether the registered bivariate significant selfie effects from Table 3 will persist in multivariate analyses. If the selfie effects disappear when age is included in the analyses, it is age, and not the selfie practice that makes young people vulnerable in the consumer role. If, on the contrary, the age effects disappear, then digital practices may explain young people's vulnerabilities. To facilitate interpretations of the results, the significant estimates are marked with green and red according to the direction of the effects.

The first line in Table 3 shows consistent results for all seven dependent variables, supporting and strengthening our assertion that young adults are particularly vulnerable in the consumer role. The second line also shows consistent results; the habit of sharing selfies is significantly and positively correlated with all our vulnerability indicators.

When comparing results from the bivariate and the multivariate analyses, we observe important changes in the estimates. The significant negative age effect disappears on the tendency to suffer detriment, it is reduced on the overconsumption variable, it disappears on the tendency to buy designer bags and to buy tattoos, and for cosmetic surgery, it changes to a significant positive result. The reduced age

effects imply that the reason why young people more often than others buy more than they need, and more often buy expensive digital products and branded clothes, can only partly be explained by their young age and lack of experience. The disappearing age effects mean that it is not age, but rather their high selfie frequencies and/or that they follow bloggers, that explain why young people more often than older people suffer consumer detriment, buy designer bags and buy tattoos. Finally, for cosmetic surgery, the negative age effect changes to positive when digital activities are controlled. In other words, it is their digital activities—not being young and inexperienced—that make young people buy cosmetic surgery. Following bloggers, taking frequent selfies and comparing prices online all increase the likelihood of consumers purchasing cosmetic surgery. Those who choose to buy cosmetic surgery also appear to be less economically aware than others are. For the remaining two dependent variables, the bivariate (Pearson r) and multivariate (odds ratio) estimates are not comparable.

The selfie effect shows significant results on five of our seven measurements, also when controlled for age, gender, financial situation, economic awareness and five more digital practices. The exceptions are on digital products and designer bags. For designer bags, the selfie effect is replaced by another reinforcing digital practice, namely to follow bloggers. And, for digital products—the most commonly acquired products—all digital practice variables, except for selfie frequencies, show significant results. Overall, the analysis supports our main assumption: By their frequent sharing of selfies on social media, perhaps displaying their cool new fashions, tattoos or their 'new lips', young people—unintentionally—help manufacturers and marketers promote their products and services, thereby contributing to commercial pressure.

One interesting finding is that the proxy variables intending to measure digital capabilities, that is, helping others with their computer and comparing prices online, did not as expected, protect against consumer vulnerabilities. On the contrary, both variables significantly increase the risk of vulnerabilities on several of the dependent variables. This finding likely reflects that high online activity itself increases online commercial influences. However, everything equal, playing online games and following YouTubers had little effect. Actually, people

TABLE 3 How do the dependent variables correlate with age and selfie frequencies? Bivariate correlations (Pearson corr.)^a (weighted results, N = 1,707)

	Consumption of expensive products/services:						
	Detri-ment	Buy more than I need	Digital prod.	Branded clothes	Designer bags	Tattoos	Cosm. surgery
Age (16–60)	-.08**	-.22***	-.24***	-.21***	-.09***	-.12***	-.05*
Selfie frequency (0–5)	.15***	.23***	.19***	.19***	.16***	.15***	.13***

^aIf only one independent variable, beta-coefficients = Pearson corr.

*** $p < .001$, ** $p < .01$, * $p < .05$.

(mostly young males) who follow YouTubers frequently seem to be less interested in branded clothes than others are.

Table 4 also indicates that a lack of economic awareness and high salaries both significantly stimulate overconsumption. Those well off financially, all other variables kept constant, also have higher tendency to buy expensive branded clothes, designer bags and digital products. To get tattoos, however, is more common among those with less money. This result may reflect a persistent class-related consumption pattern: Even though tattoos have been adapted by middleclass people and are now considered mainstream fashion (Halnon & Cohen, 2006; Kosnut, 2006), the results indicate that tattoos are still more popular as identifiers among people from the working classes as opposed to middleclass people, who rather use expensive digital products, branded clothes and designer bags as social identifiers.

As anticipated, Table 4 also shows that those with less money are more likely to suffer consumer detriment than are those well off financially. One probable explanation is that poor people more often must buy cheaper, low-quality products. In addition, people with less money will probably be more price conscious in purchase situations, as well as more sensitive to economic losses, than people financially better off are.

There is no significant gender effect on the probability to suffer consumer detriment, but women report to buy more than they need, somewhat more often than men do. To buy expensive branded clothes is more prevalent among young men, also when controlled for financial situation and digital activities. Finally, interestingly, the gendered results on tattoos and cosmetic surgery from Table 2 disappear in the multivariate analyses, meaning that young men with similar digital interests as young women buy tattoos and take cosmetic surgery as often as women do.

4.5 | Generalizations of results

Norway is regarded as one of the world's most digitalized countries and the leader in ICT use (NOU, 2015). Young adults in Norway have higher purchasing power than do young adults in many other countries. This could make them more exposed to commercial forces. The recent financial crisis did not hit young people in Norway the same way as in Greece, Italy and Spain. According to many informants in the pilot, young people in Norway are, compared to young people in many other European countries, 'very lucky and probably financially spoiled'. Overall, results presented in this article are probably influenced by a general

TABLE 4 Effects on: consumer detriment (0–18), tend to buy more than they need (1–4), bought or got as a present during the last few years: branded clothes (0–1), digital products (0–1), designer bags (0–1), tattoos (0–1) and cosmetic surgery (0–1). Two multivariate linear regressions (standardized beta coefficients) and five logistic regressions [odds ratio (Exp(B)); weighted results (N = 1,707)]

	Consumption of expensive products/services:						
	Detri-ment ($r^2 = .05$)	Buy more than I need ($r^2 = .12$)	Digital prod. ($R = .14$)	Branded clothes ($R = .14$)	Designer bags ($R = .19$)	Tattoos ($R = .09$)	Cosm. surgery ($R = .15$)
Age (16–60)	.04	-.15***	.97***	.97***	1.00	.99	1.03*
Gender (women=1)	-.01	.18***	1.35*	.63***	3.93***	1.14	1.60
Sharing selfies (0–5)	.10***	.09***	1.08	1.15***	1.13	1.20**	1.28*
Follow bloggers (0–5)	.12***	-.02	1.17*	1.20***	1.41***	1.24**	1.48***
Follow YouTubers (05)	-.03	.01	.96	.92*	.95	1.03	1.09
Online games (0–5)	.04	.01	1.12*	1.02	1.06	1.00	1.15
Helping others (0–5)	.06*	.06**	1.28***	.98	1.11	1.08	.96
Comp. prices online (0–5)	.11***	.08***	1.28***	1.28***	1.16	1.17	1.5***
Econ. awareness (1–5)	.00	-.19***	.90	.88*	.89	.88	.74*
Financial situation (1–5)	-.05*	.07**	1.13*	1.42***	1.46***	.76**	.83

*** $p < .001$, ** $p < .01$, * $p < .05$.

high purchasing power in Norway that may contribute to higher commercial pressure and consumer vulnerabilities. Consumer vulnerabilities among young people may take other forms in less wealthy countries, and among groups of consumers with scarce finances. Still, there is reason to believe that the results and conditions described in this article are relevant also for the other Nordic countries.

5 | DISCUSSION

By nature, the supply side wants to influence people to purchase more products. For that purpose, they use various channels. The mobile phone's screen is the most frequently watched screen by the global online population today and is therefore regarded as the most efficient marketing channel (Webb, 2016). It is well-documented (e.g., European Commission, 2015) that younger generations use smartphones most frequently. According to our country representative respondents, the strongest perceived marketing channel is still papers and magazines: 62% agreed they experienced commercial pressure through these channels. But among young consumers, the age group who, according to our results, seem to buy more expensive branded clothes, designer bags, digital products, tattoos and other cosmetic surgeries, online marketing is perceived as the most powerful channel: 67% agreed they were influenced by commercial marketing online. The world-leading consulting firm Deloitte, who recommend their customers on the supply side to choose digital solutions, confirms this. Their study *Navigating in the New Digital Divide – Capitalizing on digital influence in retail* showed that 76% of purchasing customers in-store had already been in contact with the brand/product online. The purchasing decision is often taken before customers visit the store, and customers who were online when they were in-store buy more (Lobaugh et al., 2015).

We are living in a big bang of emerging new data sources used by a sophisticated supply side, including information about consumers' interests, 'likes' and motivations, what they do and when, not only for a small sample of people (the survey technique) but also for everybody interacting with apps and websites (Curtis, 2016; Hawkins, 2016). One may say that today's citizens are monitored in more detail than the people in George Orwell's science fiction novel 1984 (Orwell, 1949). Orwell's *Big Brother* was a two-way television screen for secret surveillance and manipulation of recorded history (newspeak), governed by a totalitarian state. Also, today's smartphone is a two-way information channel. The surveillance is not secret, but traded against services citizens have learned to depend on, from search engines (e.g., Google), use of social media (e.g., Facebook, Instagram, Snapchat) and useful, indispensable apps facilitating participation in modern societies (e.g., ticket apps for public transportation, online news, money transactions, etc.), not to forget online gaming apps for leisure (e.g., Pokémon GO). Through their digital activities and constant contact with their screens, citizens leave information about their preferences, networks and movements that can be used in ways people may not be aware of. Instead of *Big Brother's* manipulation of recorded history, big data algorithms provide immense possibilities for commercial forces to influence people's wishes and wants.

Behavioural economists have provided new insights to public authorities about how easy it is to influence people's choices and behaviours (Kahneman, 2011; Thaler & Sunstein, 2008). These insights are not only used by regulatory authorities but also by a powerful supply side (Berg, 2014). Thaler and Sunstein (2008) claim that the most effective way to 'nudge' people is via social influence. Humans want to be accepted by peers. As indicated in this article, this mechanism is particularly strong for young adults—and as aforementioned, the supply side is well aware of that.

5.1 | Reservations

The variables included in this analysis are based on respondents' self-reports, hence based on their subjective considerations of capabilities, practices, acquisitions and losses. Respondents do not respond to such survey questions according to equal value standards. Some people tend to overestimate, while others underestimate, their capabilities, situations, and so forth and while the forgetfulness problem (Chanel, Miller, & Oksenberg, 1981) makes people fail to register a purchase, the telescoping problem (Sudman & Bradburn, 1974) makes others register too many purchases. In large surveys, such biases are expected to equal each other out, resulting in valid and reliable results. Problems, however, may arise if some groups of respondents share the same biases. In the study presented here, if consumers with scarce finances, for example, define 'expensive' at a lower price than consumers who are better off financially do, this need not represent a problem, because the intention behind these proxy variables is to grasp the phenomenon of commercial pressure. If, however, older people define 'buying more than I need' at a considerably lower level than younger people do, this could mean the negative age effect is underestimated. Likewise, if men tend to be more generous than women when they evaluate their own, for example, digital capabilities, this could interfere with the results.

Of course, people's self-reports may deviate significantly from objective measurements; still, self-reports do correlate positively with more accurate, objective measurements (Mazzoni & Nelson, 1995). When depending on respondents' own memories and self-reports, one way to reduce the effects of possible biases is to construct more approximate variables, with larger value categories, at the cost of less accurate answers. Jobe, Tourangeau, and Smith (1993) warn about retrospective questions requiring too precise answers, because most people are unable to answer them correctly. To reduce the aforementioned fallacies in the analyses presented here, rather rough categories have been used, and in interpreting results, only significance levels and the direction (positive or negative) of estimates have been given importance.

6 | CONCLUSION

The analyses presented here indicate that the overrepresentation of consumer vulnerabilities among young adults is not caused only by the fact that young people are inexperienced debutants in the markets. We find evidence that young people's digital practices—particularly posting selfies and following bloggers—trigger consumer detriment and

overconsumption. Also, unexpectedly, we find that advanced digital capabilities do not moderate consumer detriment and overconsumption. To master, and to be present, online have their advantages, but these advantages come with the risk of being subject to online commercial pressure as well as consumer detriment. This study supports the impressions from the preceding pilot interview study among young adults; the habit of sharing selfies on social media seems to reinforce marketers' commercial messages and contributes to commercial pressure.

The main message of this article is that young adults are exposed to a huge digital commercial pressure, exacerbated by their own frequent online activities, probably combined with an unreflective attitude on how their personal data and tracks online may be used by powerful online actors and sophisticated suppliers and their marketers. The results also indicated a class-related consumption pattern that should be given more attention in future research.

ACKNOWLEDGEMENTS

This article is part of the Norwegian Consumer Vulnerability project, financed by the Ministry of Children and Equality in Norway. I would like to thank the advisory group with representatives from the Ministry for Children and Equality's Consumer Department; the Norwegian Consumer Council; the Consumer Authority; and Consumption Research Norway for critiques, discussions and inspiration. Many thanks to my colleagues Marthe Hårvik Austgulen and Ingrid Kjørstad, as well as to my reviewers for inspiring critiques and comments.

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How to cite this article: Berg L. Young consumers in the digital era: The selfie effect. *Int J Consum Stud*. 2018;00:1–10. <https://doi.org/10.1111/ijcs.12431>