Social media and #MeToo: the influence of social media usage on attitudes towards sexual harassment in the workplace

Bachelor thesis

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Abstract

This study explores to what extent the less tolerant attitudes towards sexual harassment in the workplace achieved by the #MeToo-movement could be attributed to increased Twitter usage. Much previous research has concerned themselves with the consequences of social media, however, the connection between Twitter usage and attitude towards sexual harassment in the workplace remains considerably absent. The data used in this study came from the American Trends Panel (ATP) of the PEW Research Center. An Exploratory Factor Analyses (EFA), Confirmatory Factor analyses (CFA) and Cronbach's Alpha were conducted to check the validity and reliability of the scales. The regression analyses were conducted in a bootstrapped Structural Equation Model (SEM). Factor analysis yielded two dimensions for attitude towards sexual harassment in the workplace. Increased Twitter usage and being a woman leads to less tolerant attitudes for both dimensions. More exposure to content about sexual harassment leads to opposite effects for the two dimensions of attitudes towards sexual harassment in the workplace. The experience of sexual harassment predicted a less tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place. Questions were raised about the validity of the operationalization of Twitter usage. This article strove to increase our knowledge of the effect Twitter has on attitudes.

Keywords

social media, Twitter usage, #MeToo, sexual harassment, attitudes

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Introduction

On October 15th, 2017, Alyssa Milano tweeted: "*if you've ever been sexually harassed or assaulted write 'me too' as a reply to this tweet*" (Milano, 2017). The attached image to this tweet said: "*Me too. Suggested by a friend: 'If all the women who have been sexually harassed or assaulted wrote 'Me too'. As a status, we might give people a sense of the magnitude of the problem."* As of now, the tweet has 61.400 responses. This tweet was a response to the allegation of sexual harassment of 30 women, most of whom were famous actresses or other celebrities (Fortin, 2017), against Harvey Weinstein, a major Hollywood producer at the time, and kick started a major social activist movement (Sayej, 2017). It exploded over night, with tens of thousands of women posting about their own experiences of sexual misconduct (Codrea-Rado, 2017). The hashtag (#MeToo) allowed survivors of sexual harassment to raise their voices to the injustice inflicted upon them, while also sharing their stories to inspire others to do the same and support them (Zacharek, Dockterman, & Sweetlands Edwards, 2017). It started a world-wide conversation about sexual harassment, predominantly on Twitter. From that first tweet of Milano, the topic of sexual harassment greatly dominated the news. Many articles were written on the number of assaults, possible solutions and also ethical questions about the movement (Rutenberg, Abrams, & Ryzik, 2017; Valk, et al., 2017; Crary, 2018). With the global spread of the #Metoo-movement, research into the movement naturally followed. Overall, the #MeToo-movement achieved what it wanted to achieve: less tolerant attitudes towards sexual harassment. Because of the #MeToo-movement, dismissal of sexual harassment decreased for men and women (Szekeres, Shuman, & Saguy, 2020), the reporting of sexual harassment crimes and consequent arrests for sexual harassment increased (Levy & Mattsson, 2020), sexual harassment towards women in the workplace declined, while gender harassment – hostility towards women – increased (Johnson, Keplinger, Kirk, & Barnes, 2019). Contrary to these findings, other research suggests that in the wake of the #MeToo-movement women managers are more positively rated among workers than male managers, however, especially women differed in their perception of female and male managers (Meeks & Howe, 2020). Research into the influence of Twitter on the #MeToo-movement is mainly focussed on how information was spread, who spread it (journalists, media organizations, private persons, celebrities and activists), how people were mobilized in the movement (Manikonda, Beigi, Liu, & Kambhampati, 2018; Brünker, Wischnewski, Mirbabaie, & Meinert, 2020), how the hashtag was used for activism (Xiong, Cho,

& Boatwright, 2019) or commercial purposes (Afnan, Huang, Sclafani, & Bashir, 2019) and what predicted negative attitudes towards the movement (increased exposure to sexual objectification and sexually explicit material on social media) (Maes, Schreurs, van Oosten, & Vandenbosch, 2019).

Over the years social media usage has increased much. In 2019, 72% of the American adults use at least one social media website (PEW Research Center, 2019), while in 2005 only 5% of American adults used at least one social media website. With this increase in social media usage, researchers started asking questions about the implications of social media. The influence of social media on marketing strategies and on academic performance are popular research topics. Overall, social media is used in ways that increased performance of companies (Parveen, Jaafar, & Ainin, 2015) and to influence positive attitudes towards a company (Arli, 2017). Furthermore, research has found many different outcomes of social media use: social media has a negative effect on academic performance (Lau, 2017; Giunchiglia, Zeni, Gobbi, Bignotti, & Bison, 2018; Habes, Alghizzawi, Khalaf, Salloum, & Ghani, 2018), Facebook usage associated with political participation (Dagona, Karick, & Abubakar, 2013), people who use Twitter, Facebook or blogs are more likely to be politically engaged (Al-Kandari & Hasanen, 2012) and, concerning particular attitudes and mental health, social media usage is associated with lower climate scepticism (Diehl, Huber, de Zúniga, & Liu, 2019), believing COVID-19 misinformation (Su, 2021), higher body dissatisfaction and appearance discrepancies (Fardouly, Diedrichs, Vartanian, & Halliwel, 2015; Rounsefell, et al., 2020), lower self-esteem, lower feelings of self-worth, depression and anxiety (Magner, 2018). Also, social media usage is associated with increased offline protest (Valenzuela , 2013; Steinert-Threlkeld, Mocanu, Vespignani, & Fowler, 2015; De Choudhury, Jhaver, Sugar, & Weber, 2016) and overall more protest behaviour (Valenzuela, Arriagada, & Scherman, 2012). While research into the effects of social media usage is extensive and has demonstrated how influential social media can be, research into connecting Twitter usage and attitudes towards sexual harassment has not been researched considerably. While research into attitudes towards sexual harassment is a popular research topic, researchers mainly concern themselves with offline characteristics that predict a more or less tolerant attitude towards sexual harassment (McCabe & Hardman, 2005; Ohse & Stockdale, 2008) rather than online characteristics such as Twitter use. Research that does connect Twitter and sexual harassment is about proposed computer models that detect sexual harassment content

online (Chowdhury, Sawhney, Shah, & Mahata, 2019; Bugueño & Mendoza, 2020; Espinoza & Weiss, 2020), the detection of sexual harassment in general (Frenda, Ghanem, Montes-y-Gómez, & Rosso, 2019) or about online harassment and its consequences. Women who live in rural areas and those who spend more time on social media experience more online sexual harassment (Arafa, Elbahrawe, Saber, Ahmed, & Abbas, 2018), which is associated with increased drug use, alcohol use, depression, anxiety, stress and posttraumatic reactions (Reed, et al., 2019; Cripps & Stermac, 2018). Again, the connection between Twitter usage and attitude towards sexual harassment has yet to be made. While much research has been done into the effects of social media use and its influential properties, how the #MeToo-movement spread online, the characteristics that predict a less or more tolerant attitude towards sexual harassment and how sexual harassment can be detected online, the possible connection between Twitter usage and attitude towards sexual harassment remains considerably absent.

In this study, I will investigate this possible connection between Twitter usage and attitude towards sexual harassment. Considering the dominance of the #MeToo-movement on Twitter – the movement was started on Twitter and grew through the multitude of tweets with the hashtag MeToo -, I will study the possible effect Twitter usage will have on attitude towards sexual harassment. Also, I will only consider attitude towards sexual harassment in the workplace. While, as aforementioned, the experience of sexual harassment has many negative consequences, much research has found that the experience of sexual harassment in the workplace has negative psychological, health- and job-related consequences (Fitzgerald, 1997; Zhu, Lyu, & Ye, 2019; Chan, Tang, & Chan, 1999; McDonald, 2012; Willness, Steel, & Lee, 2007; Doll & Giumetti, 2015). Thus, also considering that sexual harassment in the workplace is considerably underreported (McDonald, 2012; Hersch, 2015; Gruber & Smith, 1995), determining how attitudes towards sexual harassment in the workplace can be changed, might be beneficial for preventing and combatting sexual harassment in the workplace. Also, the #MeToo-movement was started as a reaction to the sexual harassment allegations against Harvey Weinstein, where the victims predominantly accused him of sexual harassment in a professional setting. Ergo, considering attitude towards sexual harassment in the workplace might be interesting in the context of the #MeToo-movement. As mentioned before, women experience more sexual harassment than men do (Arafa, Elbahrawe, Saber, Ahmed, & Abbas, 2018; Street, Gradus, Stafford, & Kelly, 2007). So, accounting for the possible difference between men and

women in their attitude towards sexual harassment in the workplace and the possible difference in effect Twitter usage might have on attitude towards sexual harassment in the workplace might be intriguing to explore.

To summarize, I want to look at the possible connection between Twitter usage and attitudes towards sexual harassment in workplace and how gender possibly moderates this effect. In doing this, we can better understand the effect the #MeToo-movement had on people's attitudes as well as the influence of the movement through Twitter and, as a consequence, broaden our understanding of the influential properties of Twitter. Aforementioned research did find that the #MeToo-movement achieved a less tolerant attitude towards sexual harassment and that less sexual harassment was reported. However, I want to know if this change in attitude can be attributed to Twitter usage. So, my research question is:

To what extent does the amount of time spend on Twitter influence attitudes towards sexual harassment in the workplace and is this effect moderated by gender?

Theory

In order to hypothesise about the possible relationship between Twitter use and attitudes towards sexual harassment in the workplace, knowledge about how attitudes towards sexual harassment in general can be changed is vital. Research has shown that attitudes towards sexual harassment in the workplace can be changed through sexual harassment training (Antecol & Cobb-Clark, 2003; Beauvais, 1986; Bingham & Scherer, 2001; Perry, Kulik, & Schimdtke, 2006). This sexual harassment training consists of speeches about the harm of sexual harassment and the lack of tolerance for it, definitions of sexual harassment, the importance of reporting it and discussions between participants. In other words, these training programs inform the participants about sexual harassment in the workplace and showcase a negative attitude towards it in order to successfully change their attitudes towards sexual harassment in the workplace. Thus, exposure to information about sexual harassment and to negative attitudes towards sexual harassment result in a less tolerant attitude.

Now, we need to understand the connection between Twitter use and the effect on attitudes towards sexual harassment in the workplace with these mechanisms in mind. First, we need to consider the diffusion of information on Twitter through information cascades. Being aware of sexual harassment in the workplace influences people's attitude towards it. In order for

information to spread, an information cascade – a chain reaction of information sharing between people - needs to be started. People with a high following are most likely to start an information cascade and thus are most influential (González-Bailón, Borge-Holthoefer, & Moreno, 2013; Tremayne, 2014; Bakshy, Mason, Hofman, & Watts, 2011; Araujo, Neijens, & Vliegenthart, 2017). González-Bailón et all. (2013) distinguished four types of information spreaders on Twitter: *influentials*, *hidden influentials*, *broadcasters* and *common users* on twitter, from which *influentials* and *broadcasters* were most likely to start an information cascade. *Influentials* and *broadcasters* both have a higher number of people that follow them than the number of people that they follow. However, *influentials* receive more messages than they send, while *broadcasters* send more messages than they receive. Building on this, Bakshy et all. (2011) find that, while people with a high following are most influential, the starting of an information cascade by someone who is influential is not reliable; an information cascade is not always started. Thus, in order for information to spread effectively on Twitter, many different influencers should share the same information to guarantee information cascades. As a result of these information cascades, people will encounter information about sexual harassment more rapidly and be more informed about sexual harassment, which will in turn result in less tolerant attitudes towards sexual harassment in the workplace (as established by forenamed research into changing attitudes towards sexual harassment in the workplace).

Since attitudes in the workplace can be changed by two mechanisms through sexual harassment training – exposure to information about sexual harassment and to negative attitudes towards sexual harassment in the workplace –, I will now look at how the mechanism of exposure to negative attitudes towards sexual harassment in the workplace could be translated to Twitter. So, I will consider how behaviour and attitudes are changed online through complex contagion. Opposed to simple contagion, which is mostly used in disease spread models, where one neighbour within their network that has adopted a certain behaviour is enough for someone to also adopt that behaviour, complex contagion is a process which postulates that people adopt a certain behaviour when a certain fraction of their neighbours has already adopted that behaviour (Karsai, Iñiguez, Kaski, & Kertész, 2014). Research into behaviour adoption found that interconnection between clusters in a network is beneficial for information spread – i.e., the 'strength of weak ties' hypothesis -, while people are more likely to adopt behaviour through multiple affirmations from strong ties (Centola, 2010). However, within complex contagions

weak ties can also create enough affirmation for the adoption of behaviour (Centola & Macy, 2007). So, strong ties can easily affirm someone in adopting a certain behaviour, but enough weak ties combined can do the same. Along the same lines, research has shown that people adopt environmentally friendly behaviour and are more informed about it (Robelia, Greenhow, & Burton, 2011) and adopt new technology (Peng & Mi, 2011) through peer interaction. Other research showed that the diffusion of behaviour through online sharing is accurately described by a model of complex contagions (Sprague & House , 2017; Mønsted, Sapieżyński, Ferrara, & Lehmann, 2017). Thus, in order for people to adopt a certain behaviour, they need to be exposed to multiple sources that affirm that certain behaviour as per complex contagions. So, we can assume that increasing affirmations from strong and weak ties cause behaviour adoption. This means that, on Twitter, people will adopt a certain behaviour when multiple weak ties or strong ties have performed that behaviour and, thus, affirm it. Many different celebrities joined and tweeted about the #MeToo-movement. These women described experiencing sexual harassment in a professional setting (Armstrong, 2018). However, what does it say about the attitudes of these celebrities if they join the movement? According to the theory of planned behaviour, intentions to perform a certain behaviour can be accurately predicted by subjective norms, attitudes towards the behaviour and perceived behavioural control (Ajzen, 1991; Conner, 2020; Madden, Ellen, & Azjen, 1992). Thus, we can conclude that by joining the movement, these celebrities have a less tolerant attitude towards sexual harassment in the workplace.

Combing these two mechanisms, we can say that the celebrities joining the movement would be considered *Influentials* because they have a high following on twitter and receive more messages than they send. Thus, they have a high likelihood of starting an information cascade. As a consequence, more information about sexual harassment in the workplace will circulate on Twitter. With this increase in information about sexual harassment, exposure to this content will also increase and will increase even more with increased Twitter usage, which in turn will result in people being more informed about sexual harassment in the workplace and, consequently, adhere a less tolerant attitude towards sexual harassment in the workplace. Also, with the increasing tweets of the celebrities joining the movement and showcasing their negative attitudes towards sexual harassment in the workplace, people will more likely be exposed to these negative attitudes with increased Twitter usage and, hence, have a higher probability of receiving enough affirmation to join the movement and adopt the same negative attitudes towards sexual

harassment in the workplace through complex contagion. So, with increased Twitter usage comes increased exposure to information about sexual harassment in the workplace and increased exposure to negative attitudes towards sexual harassment in the workplace, which, in turn, brings about negative attitudes towards sexual harassment in the workplace. So, accordingly, my first hypothesis is as follows:

H1. More twitter usage will lead to a less tolerant attitude towards sexual harassment in the workplace.

Next, I want to hypothesize about how gender possibly effects attitude towards sexual harassment in the workplace. To reiterate, women, in general, experience more sexual harassment than men (Arafa, Elbahrawe, Saber, Ahmed, & Abbas, 2018; Street, Gradus, Stafford, & Kelly, 2007; Foulis & McCabe, 1997). Here, gender group identity plays a role in the possible differences between men and women. Gender group identity is an example of social identity; someone identifies themselves as a member of a gender group, which causes them to exhibit behaviours corresponding to accepted group norms and have an in-group bias (Maldonado, Tansuhaj, & Muehling, 2003). So, they judge group members more positively than out-group members. With this in mind, I postulate that women will be less tolerant towards sexual harassment in the workplace. Women experience more sexual harassment than men and the experience of sexual harassment in the workplace has negative consequences (Fitzgerald, 1997; Zhu, Lyu, & Ye, 2019; Chan, Tang, & Chan, 1999; McDonald, 2012; Willness, Steel, & Lee, 2007; Doll & Giumetti, 2015). Because of the gender group identity of women and their consequent in-group bias, the mistreatment of other women (who they consider to be part of their gender identity group) causes them to be more negative towards the mistreatment of other women and thus be less tolerant of sexual harassment in the workplace. Much research has supported this effect. Women adhere a less tolerant attitude towards sexual harassment than men do and with age people will become less tolerant towards sexual harassment (Foulis & McCabe, 1997; Ford & Donis, 1996; Russell & Trigg, 2004). Others found that strong gender group identity resulted in a less tolerant attitude towards sexual harassment in women (Murrell & Dietz-Uhler, 1993). Research has been done into the difference of men and women in their perception of sexual harassment. Some have found that there are no differences in perception in sexual harassment in men and women (Foulis & McCabe, 1997; McCabe & Hardman, 2005),

while other research has found that women perceive more behaviour as sexual harassment than men do (Rotundo, Sackett, & Nguyen, 2001; Konrad & Gutek, 1986; Mazer & Percival, 1989). Interestingly, McCabe & Hardman found that lower levels of perception of sexual harassment predicted more tolerant attitudes towards sexual harassment. So, considering gender group identity and the discovered differences between men and women in attitudes towards sexual harassment, my second hypothesis is as follows:

H2. Women are less tolerant towards sexual harassment in the workplace than men.

Overall, men had a more negative attitude towards the #MeToo-movement than women (which does not consequently mean that they are also less tolerant towards sexual harassment) (Kunst, Bailey, Prendergast, & Gundersen, 2019; Roth-Cohen, Ne'eman-Haviv, & Bonny-Noach, 2019); they found the movement less beneficial and more harmful. Others found that men overall were positive towards the movement, however, were watchful about the development it made which could bring harmful consequences. Research into the echo chambers effect on Twitter found that this effect causes more polarization within debates between groups (Du & Gregory, 2017; Cossard, et al., 2020; Garimella & Weber, 2017). Along similar lines, research showed that people are exposed to more different views on Twitter than they are offline, however, they are more likely to interact with like-minded people, which strengthens their group identity while conversations between different minded people increases polarization (Yardi & Boyd, 2010). Since men are more negative towards the #MeToo-movement than women, increased Twitter usage will have a different effect for men than for women. Men will consequently look up views or join a group on Twitter which is in line with their own and women will do the same. This results in men only seeing more tolerant attitudes towards sexual harassment in the workplace on Twitter while women are more frequently exposed to less tolerant attitudes towards sexual harassment in the workplace, thus creating more polarization between men and women. So, following these findings, the expectation is that gender will have a moderating effect on attitudes towards sexual harassment in the workplace; men will be more frequently exposed to more tolerant attitudes towards sexual harassment in the workplace and women to less tolerant attitudes, thus ‘echoing’ and strengthening their own views. So, my third hypothesis is:

H3. The negative effect of Twitter usage on attitude towards sexual harassment in the workplace will be stronger for women than for men.

Method

Data

In this study, two waves from the American Trends Panel (ATP) will be used. The ATP was created by PEW Research Center and is of American origin. Respondents are randomly selected American adults who were asked to join the ATP as a respondent thus resulting in every wave having the same respondents (PEW Research Center, 2020). For this study, wave 32 and wave 35 of the ATP will be combined; items from wave 32 will be taken to operationalize attitudes towards sexual harassment and items from wave 35 will be taken to operationalize Twitter usage. Consecutively, these waves were conducted from February 26th to March 11th of 2018 and from May 29th to July 11th of 2018 (PEW Research Center, 2020). In wave 32, 5.497 of the total 9.942 members of the ATP were included, which was a response rate of 55,3% (PEW Research Center, 2018). In wave 35, 5.486 of the members were included, which resulted in a response rate of 55,2% (PEW Research Center, 2018).

First, the two datasets were combined. This was done with the variable QKEY present in both datasets. This variable consists of id numbers assigned to every member of ATP; every respondent has a unique id number which is used in every wave they participate in. After doing this, the dataset had a final sample size of 4.372 respondents. After all the following variable recoding, listwise deletion resulted in a final N of 3.932.

Operationalizations

Dependent variable

For this analysis, a scale was constructed for attitude towards sexual harassment in the workplace from the variable *HARASS1*, which consisted of 4 sub-questions *HARASS1A, HARASS1B, HARASS1C* and *HARASS1D* from wave 32. The overarching question of *HARASS1* was: *'When it comes to sexual harassment and sexual assault in the workplace today, how much of a problem, if at all, would you say each of the following is?'*. The sub-questions of *HARASS1A, B, C* and *D* were consequently: *'Women claiming they have experienced sexual harassment or assault when it actually hasn't occurred.', 'Employers firing men who have been accused of sexual harassment or assault before finding out all the facts', 'Men getting away with committing sexual harassment or assault'* and *'Women not being believed when they claim that they have experienced sexual harassment or assault'*. All four of these questions had 3 answer

categories: *'Major problem'*, *'Minor problem'* and *'Not a problem'*, where *'Major problem'* was coded as 1, *'Minor problem*' as 2 and *'Not a problem'* and 3. If the respondent refused to answer, 4 was coded. Question A and B were recoded as such that a higher value would reflect a more tolerant attitude towards sexual harassment in the workplace. Next, for all 4 questions the value 4 was coded as missing. The scale for attitudes towards sexual harassment in the workplace was constructed by taking the average of the 4 questions. The construction of this variable resulted in 116 missing cases.

Independent variables

Before constructing a scale for Twitter usage, variable *SNS* from wave 35 was used to construct a dummy variable to determine who is a Twitter user. *SNS* asked: *'Do you use any of the following social media sites?'*, where every different social media platform was coded as a sub-question in the dataset. So, the sub-question *SNSB* concerning Twitter was dummy coded as such that a value of 1 meant the respondent was a Twitter user. This variable has 0 missing cases.

For Twitter usage, question *SM10* from wave 35 was used. This question asked: *'Have you done any of the following activities on social media in the past year?'*. *SM10* consisted of 5 sub-questions that asked consecutively: *'Changed your profile picture to show your support for a cause'*, *'Used hashtags related to a political or social issue'*, *'Taken part in a group that shares an interest in an issue or cause'*, *'Encouraged others to take action on issues that are important to you'* and *'Looked for information about rallies or protests happening in your area'*. These variables had two answer categories: *'Have done this in the past year'* and *'Have not done this in past year'*. If the respondent refused to answer the question, value 3 was coded. The variables were dummy coded as such that if the respondent had done the asked behaviour in the past year, a 1 was coded and otherwise a 0. Considering the nature of the questions and the functions of Twitter, only *SMB, D* and *E* were used to calculate the Twitter usage scale. Seeing that, changing profile pictures and joining groups are both functions related to Facebook instead of Twitter. The scale was constructed by calculating the average of all 3 variables. Next, I combined the constructed variables twitter user and twitter usage as such that non-Twitter users were coded as 0 on the variable Twitter usage, while Twitter users would keep their reported score. After recoding, this variable had 6 missing cases.

Considering my theory about the effect of Twitter usage on attitude towards sexual harassment in the workplace, I used a variable that measured the amount of content the

respondent has been exposed to in order to study the proposed mechanism. As beforementioned, exposure to content can change someone's attitude towards sexual harassment in the workplace. So, this variable measures how much or if at all someone has seen content about sexual harassment that might cause them to change their attitude. Variable *SM14B* from wave 35 asked: *'Thinking about the content you SEE on social media, approximately how much content would you say is about sexual harassment or assault?'*. Respondents could answer with: *'A great deal', 'Some', 'Only a little'* and *'None'*. If the respondent refused to answer the question a 5 was assigned. First, the value 5 was coded as missing, then, the variable was recoded as such that a higher value meant more exposure to content about sexual harassment or assault. This variable had 314 missing cases.

I operationalized gender with the variable *F_SEX_FINAL.y* from wave 35. This variable asked after the respondent's gender and had three answers categories: '*Male', 'Female'* and *'Refused'*. The variable was dummy coded as such that a value of 1 meant the respondent was female. The variable Female had 0 missing cases.

Control variables

Next, I operationalized the control variables. The first control variable is whether or not someone has experienced sexual harassment in the workplace or not. I have added this as a control variable because the experience of a certain behaviour or harassment will influence the attitude towards that specific behaviour or harassment. For this the variable *HARASS5* from wave 32 of ATP was used. This variable asked if someone received unwanted sexual advances or verbal or physical harassment of a sexual nature in a professional setting, outside a professional setting or both. Respondents only retained their score when they answered to the question *HARASS4* that they ever personally received unwanted sexual advances or verbal or physical harassment of a sexual nature. Next, *HARASS5* was dummy coded as such that the respondent was coded as 1 if they had received sexual harassment in the workplace. After, this recoding, this control variable had 26 missing cases.

The second control variable is age. From aforementioned research, we saw that age is associated with attitude towards sexual harassment in the workplace; with age people become less tolerant towards sexual harassment (Foulis & McCabe, 1997), thus, it will be useful to add to the analysis. I operationalized this with the variable *F_AGECAT_FINAL* from wave 35.

People were split up into 4 age categories: *19-29, 30-49, 50-64* and *65+*. Recoding of this variable was not necessary. This variable had 5 missing cases.

Reliability and validity checks

I conducted multiple validity checks for both the attitude towards sexual harassment in the workplace scale and the twitter usage scale. I calculated the Cronbach's alpha for both scales and conducted an Exploratory Factor Analysis (EFA) followed by a Confirmatory Factor Analysis (CFA).

First, I will discuss the results from the validity checks for the attitude towards sexual harassment in the workplace scale. The Cronbach's alpha for the attitudes towards sexual harassment in the workplace scale had a value of .64, which is a questionable value. The scale did not improve if an item would be dropped. To further check the validity of the scale, I conducted an EFA followed by a CFA. CFA was chosen to check the beforehand theory about the model. The analyses for both the scales (attitude towards sexual harassment and Twitter usage) were conducted in the same model, but their results will be discussed separately.

Before conducting the factor analyses, the assumptions this model makes were checked. Looking at the descriptive statistics for the variables of the scale, the kurtosis value of *HARASS1B* is in violation, indicating that it is not normally distributed. Thus, for the EFA, Principal Axis Factoring (PAF) will be used, which allows for non-normally distributed variables. The determinant of the correlation matrix for attitudes towards sexual harassment in the workplace is .329, which is >.0001 and, thus, indicates no violation of nonlinearity between items. Next, the Kaiser-Meyer-Olkin (KMO) index was used to determine the amount of variance in the items that can be explained by an underlying factor. The average KMO values for the attitudes towards sexual harassment scale was .52, with a range of [.51; .54], which is considerably poor and factor analysis might not be useful.

Kaiser's Criterion and Parallel analysis were used in order to determine the number of factors that should be extracted. Kaiser's Criterion yielded the retaining of 2 factors, while Parallel analysis suggested retaining 3 factors. First, I extracted only 2 factors because of my a priori theory (keep in mind that the items for both the scale for attitude towards sexual harassment in the workplace and twitter usage were included), however, the results of the EFA showed that *HARASS1C* and *HARASS1D* loaded positively on the second factor (.814; .743), while *HARASS1A* and *HARASS1B* loaded negatively on the second factor (-.306; -.352). On top

of this, the CFA analysis with two factors yielded a bad fit of the model, the χ^2 fit seemed good, $\chi^2(13) = 1879.035$, $p<.001$, but other measures needed to be considered because of the big sample size for the factor analysis (n=4372). Both the RMSEA (.181, with a 90% confidence interval [.174; .188]) and the CFI (.795) indicated a bad fit. So, looking at the results from the factor analyses – especially the model fit indices and the factor loadings –, the results from the parallel analysis, which recommended the extraction of 3 factors, and the plot of the eigenvalues of the items (where in figure 1 we can see that the 'elbow' in the plot is after the third eigenvalue), there seems to be a good statistical argument for extracting 3 factors instead of 2. So, I conducted and EFA and CFA extracting 3 factors, splitting the scale for attitudes towards sexual harassment in the workplace into two dimensions of this construct.

The EFA with 3 factors yielded that *HARASS1C* and *HARASS1D* loaded positively on the first factor (.824; .842) and that *HARASS1A* and *HARASS1B* loaded positively on the second factor (.779; .764). The χ^2 fit of the CFA with 3 factors was better than the model with 2 factors, $\chi^2(11) = 57.394$, $p<.001$, but, again, the RMSEA and CFI need to be considered for the goodness of fit because of the large sample size (n=4372). Both the RMSEA (.031, with 90% CI [.023, .039]) and CFI (.995) indicated a good fit of the model. So, these two scales are supported. After constructing the two scales by taking the average of the two items for each scale, the Cronbach's alpha was calculated again for the new scales. The first attitude scale had a value of .82 and the second had a value of .75. Both acceptable values. The values would not improve if an item was not included. Considering the nature of the questions that now make the two scale for attitudes towards sexual harassment in the workplace, the first scale consisting of *HARASS1A* and *B,* measures the attitudes towards sexual harassment in the workplace when it is believed the harassment has not occurred while the second scale measures attitudes towards sexual harassment in the workplace when it is assumed the harassment has occurred. For convenience, the scale of attitude towards sexual harassment in the workplace where it is believed the harassment has not occurred will now be referred to as attitude 1 and the other as attitude 2. After construction, attitude 1 had 99 missing cases and attitude 2 had 70 missing cases. Combining the results of the EFA and CFA and the Cronbach's alpha, we can conclude that the scales seem valid and reliable.

Next, I will discuss the results for the Twitter usage scale. the Cronbach's alpha was calculated for the scale, alongside an EFA and CFA. The Cronbach's alpha of the Twitter usage

scale yielded a value of .79, an acceptable value. Dropping an item would not improve the scale. Just as was done for the variables for attitude towards sexual harassment in the workplace, the assumptions of the measurement model were checked before the analyses were conducted. There only seemed to be indication of the violation of the normality assumption; the skewness and kurtosis value for *SM10B, D* and *E* are too high. However, this can be explained due to dichotomy of the variables. As mentioned before, PAF was used to allow for non-normally distributed variables. The determinant of the correlation matrix (.386) and the KMO index (.71) gave indication that factor analysis might be useful. As mentioned before, 3 factors were extracted. The EFA yielded that all three items for Twitter usage loaded positively on the third factor (.737; .830; .709). Aforementioned, the model fit of the CFA was good. Thus, the Twitter scale seems valid and reliable.

However, in order to further check whether the chosen sub-questions are indeed a good measure for Twitter usage instead of overall social media usage, an EFA and CFA were conducted with all sub-questions of *SM10*. First, the assumptions of the measurement model were checked. Looking at the descriptive statistics for the variables *SM10A-E,* we can see all the variables violate the guideline for skewness and kurtosis, meaning that the variables are not normally distributed. They are too skewed to the left and too peaked. However, this, again can be explained due to the dichotomy of the variables. So, again, PAF will be used in the factor analysis to allow for non-normally distributed variables. The determinant of the correlation matrix was .119. This value is >.0001, thus there is nonlinearity between the items. The KMO index yielded an average value of .85 with a range of [.81; .91]. This value is quite good and, thus, factor analysis seems useful. Again, Kaiser's Criterion and Parallel analysis were used to determine the number of factors. Kaiser's Criterion suggested retaining 2 factors, while parallel analysis suggested retaining 4. In this factor analysis, I extracted 4 factors, since the belief is that question *SM10B, D* and *E* are associated with Twitter functions and load on the same factor, the other two items are not associated with Twitter functions and load on the other factor and the remaining 2 factors are the aforementioned attitude towards sexual harassment in the workplace scales. The results from the EFA do not show the expected factor loadings. *SM10B-E* load positively on the first factor (.674; .808; .872; .718) while *SM10A* loads positively on the fourth factor (.942). *HARASS1C* and *D* loaded positively on the second factor (.816; .850) and *HARASS1A* and *B* loaded positively on the third factor (.787; .758). Looking at the nature of the

questions that load on the first factor, this factor describes the overall social media usage of Twitter users (since the item were coded as such that only Twitter users retained their score on the variables). The χ^2 fit of the CFA model (where 3 factors were included, since the fourth factor consisted of one item and, thus is not considered a latent variable) was good ($\chi^2(17) = 109.996$, $p<.001$). The RMSEA and CFI both also indicated a good fit of the model (RMSEA = .035, with 90% CI [.029; .042] and CFI = .993). The results indicate that the social media scale for Twitter users also seems valid, and, as a result, trumps the Twitter usage scale. However, the model fit for the measurement model with the Twitter usage scale does fit better than the measurement model with social media usage and *SM10A*. Suggesting that the Twitter usage scale is better than the social media scale.

Analyses

Because of the latent variables in this study, the decision was made to conduct the analyses in a Structural Equation Model (SEM). Within this SEM-model regression analyses were conducted. Analyses for both the scales of attitudes towards sexual harassment in the workplace were conducted with the Twitter usage scale as independent variable because, theoretically, only the questions I had selected for the Twitter usage scale are compatible with Twitter use, because of the functions within the Twitter platform; the other two questions are only applicable to functions imbedded within Facebook. On top of that, comparing the results from the CFAs with Twitter usage and social media usage, the model fit with Twitter usage seems to be slightly better that the model with social media usage and *SM10A*. However, keeping in mind the poor statistical support for the Twitter usage scale, all the analyses will also be conducted with the social media scale plus the variable *SM10A* as a robustness check to see if the results may differ between the scales. This results in 4 regression analyses. Robustness checks will also be done with all the variables from the variable *SM10* independently. Bootstrap samples were used in the analyses because the variables were not normally distributed. Based upon the recommendation of Cheung & Lau (2008), the decision was made to perform a 1.000 bootstrap resamples in the analyses. Furthermore, standardized regression coefficients were added, since the variables all had different measurement levels, so the coefficients can be compared to each other.

Regression model assumptions check

Before the analyses were done, the assumptions of the regression model were checked for all the analyses. First the assumptions were checked for the regression analysis including Twitter usage as independent variable on attitude 1. The Gvlma package in R and diagnostic plots, as can be seen in the appendix, were used to check these assumptions. There only seemed to be indication of the violation of the normality assumption. The same goes for the assumptions for the regression analysis on attitude 2; the variables are not normally distributed.

Checking the assumptions for the robustness check of the regression analysis on attitude 1 and on attitude 2 including social media usage and *SM10A* as dependent variables, there only seems to be indication that the variables are not normally distributed.

Results

In table 1, we can see the descriptive statistics for the variables. The dataset has an even distribution of males and females (M = .50), indicating that 50% of the dataset is female. The average respondent is in between having a less and more tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place (M = 2.01, SD = .65). Comparing this to the other variable for attitude towards sexual harassment in the workplace, we can see that the respondents on average are less tolerant towards sexual harassment in the workplace when it is assumed the harassment has taken place (M = 1.63, SD = .64). Looking at the variables Twitter usage (M = .10, SD = .25) and social media usage (M = .11, SD = .25), we can see that Twitter and social media overall is not used very much on average by Twitter users. From the variables included in these scales the most people, compared to the other variables, have taken part in a group online that shares an interest in an issue or cause (M = .14). The least amount of people changed their profile picture to show their support for a cause online (M = .06). Looking at the variable exposure to content about sexual harassment, we can see that, on average, the respondents were exposed to '*some*' content about sexual harassment (M = 2.85, SD = .92). A considerable number of the respondents have experienced sexual harassment in the workplace (M = .35) and on average, the respondents were more likely to be middle aged (M = 2.73, SD = .97).

Table 1. Descriptive statistics

Variable	Number of Cases	Mean	SD	Minimum	Maximum	Skewness	Kurtosis
Attitude SH in workplace	3932	1.82	.42	1	3	.04	-.15
Attitude 1	3932	2.01	.65	1	3	-.01	-1.00
HARASS1 A	3932	1.99	.70	1	3	.01	-.99
HARASS1 B	3932	2.03	.76	1	3	-.04	-1.26
Attitude 2	3932	1.63	.64	1	3	.65	-.67
HARASS1 C	3932	1.58	.67	1	3	.74	-.58
HARASS1 D	3932	1.67	.73	1	3	.59	-.92
Twitter usage	3932	.10	.25	0	1	2.62	5.80
Social media usage	3932	.11	.25	0	1	2.40	4.60
SM10 A	3932	.06	-	0	1	3.60	10.98
SM10 B	3932	.08	-	0	1	3.14	7.85
SM10 C	3932	.14	-	0	1	2.12	2.50
SM10 D	3932	.13	-	0	1	2.23	2.99
SM10 E	3932	.08	-	0	1	3.05	7.33
Exposure to content about SH	3932	2.85	.92	1	4	-.39	-.72
Female	3932	.50	-	0	1	.00	-2.00
Experience SH in prof	3932	.35	-	0	1	.62	-1.61
Age	3932	2.73	.97	1	4	-.17	-1.01

Table 2 describes the results of the bootstrapped structural model with Twitter usage as independent variable. Before looking at these results, the model fit needs to be considered. The χ^2 fit is good ($\chi^2(13) = 63.977$, $p<.001$). Nonetheless, due to the dependence of χ^2 on the size of sample, other measures will also be considered. RMSEA (RMSEA = .032, with 90% CI [.024; .039]) and CFI (CFI = .989) both indicated a good fit of the model. Now, we can consider the bootstrapped estimation of the structural model in table 2. The first model describes the results where attitude 1 (attitude towards sexual harassment in the workplace where it is assumed the harassment has not taken place) is the dependent variable and the second model describes the results where attitude 2 (attitude towards sexual harassment in the workplace where it is assumed the harassment has taken place) is the dependent variable. The significance of the model was estimated with 1.000 bootstrapped resamples, because, as mentioned before, the variables were not normally distributed.

Looking at model 1 in table 2, Twitter usage has a negative effect on attitude 1 ($b = -.308$, $p<.001$), meaning that more twitter usage leads to a less tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place. Women have a less tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place than men do ($b = -.078$, $p<.001$). Where, the negative effect of Twitter usage on attitude 1 is greater for women than men, however not significant ($b = -.039$, $p>.05$). Interestingly, exposure to content about sexual harassment has a positive effect on attitude 1($b = .046$, $p<.001$). Meaning that more exposure to content about sexual harassment leads to a more tolerant attitude towards sexual harassment when it is assumed the harassment has not taken place. Having experienced sexual harassment in the workplace ($b = -.027$, $p>.05$) and age ($b = -.010$, $p>.05$) have a negative effect on attitude 1, however both were not significant.

Model 2 in table 2 describes the bootstrapped regression estimates where attitude 2 (attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place) is the dependent variable. Twitter usage has a negative effect on attitude 2 ($b = -.308$, $p<.001$). Thus, more Twitter usage leads to a less tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place. Female has a negative effect on attitude 2 ($b = -.169$, $p<.001$), meaning that women have a less tolerant attitude towards sexual harassment when it is assumed the harassment has taken place than men.

The interaction effect between Twitter usage and gender shows that the negative effect of Twitter usage is greater for men (b = .049, p>.05), however not significant. Exposure to content about sexual harassment has a negative effect on attitude 2 (b = -.079, p<.001). Thus, more exposure to content about sexual harassment leads to a less tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place opposed to when it is assumed it has not taken place; then it leads to a more tolerant attitude. Having experienced sexual harassment in the workplace has a negative effect on attitude 2, meaning that people who have experienced sexual harassment in the workplace have a less tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place (b = -.089, p<.001). Age has a positive effect on attitude 2 (b = .022, p>05), however not significant. Comparing the standardized coefficients in model 2, we can see that Female has the largest effect on attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place and then comes exposure to content about sexual harassment and after that comes Twitter usage. Implying that being female and exposure to content about sexual harassment have a larger negative effect on attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place than Twitter usage.

Table 2. Bootstrapped estimation of the structural model including Twitter usage as independent variable and Attitude 1 and Attitude 2 as dependent variables, N=3938

Variables	Total				
	Estimate	Standardized Coefficients	95 %CI		Fit
			Lower	Upper	
Model 1[a]					
Twitter usage	-.308***	-.115***	-.445	-.172	
Female	-.078***	-.081***	-.114	-.042	
Twitter usage * Female	-.039	-.010	-.224	.146	
Exposure to content about SH	.046***	.090***	.028	.065	
Experience SH in prof	-.027	-.027	-.027	.007	

Age	-.010	-.021	.028	.065	
					R^2=.030
Model 2[b]					
Twitter usage	-.389***	-.115***	-.547	-.230	
Female	-.169***	-.144***	-.211	-.127	
Twitter usage * Female	.049	.011	-.170	.269	
Exposure to content about SH	-.079***	-.124***	-.100	-.057	
Experience SH in prof	-.089***	-.073	-.133	-.045	
Age	.022	.036	.002	.042	
					R^2=.068
Model fit indices[c]					
χ^2*(df)*					63.977****(13)*
RMSEA *[90% CI]*					.032*[.024, .039]*
CFI					.989

*Note: based on 1000 bootstrap resamples, * p < .05, ** p < .01, *** p < .001*

[a] *Dependent variable is attitude 1 (attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place)*

[b] *Dependent variable is attitude 2 (attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place)*

[c] *Model fit indices are for the overall structural model, thus for both model 1 and model 2*

Robustness checks

As robustness checks, analyses were done including the social media usage scale and *SM10A* and for every sub-question of *SM10*, used in the construction of Twitter usage and social media usage, on its own.

Table 3 describes the bootstrapped estimates for the structural model including social media usage and *SM10A* as independent variables. Comparing the χ^2 fit ($\chi^2(17) = 80.453$, $p<.001$) and the CFI (CFI = .987) with the structural model with Twitter usage as independent variable, we can see indication that the model including Twitter usage fits better. However, the RMSEA seem to indicate that the model including social media usage and *SM10A* fits better (RMSEA = .031, with 90% CI [.024; .038]). However, these differences are very small. Table 3 is formatted the same as table 2, so, model one describes the estimates with attitude 1 as dependent variable and model 2 describes the estimates with attitude 2 as dependent variable.

Comparing model 1 from table 3 to model 1 from table 2, we can see that social media usage has the same effect on attitude 1 (b = -.308, $p<.001$) as Twitter usage. There do not seem to be many major differences in the effects between the models 1 from table 2 and 3. Only the effect of *SM10A* (b = .026, $p>.05$) and its interaction with gender (b = .014, $p>.05$) have a different effect on attitude 1, however, both insignificant. The R^2 of model 1 in table 2 is larger ($R^2 = .030$) than that of model 1 in table 3 ($R^2 = .028$). Indicating that model 1 with Twitter usage as independent variable explains more of the variance in attitude 1 than model 1 with social media usage and *SM10A* as independent variables.

When comparing model 2 with Twitter usage as independent variable and model 2 with social media and *SM10A* as independent variables, we can again see minor differences between them. Social media usage (b = -.442, $p<.001$) has a similar effect on attitude 2 as Twitter usage. Again, there do not seem to be many differences between the model with Twitter usage as independent variable and the model with social media usage and *SM10A* as independent variables. The only differences are that *SM10A* (b = .122, $p>.05$) and its interaction with gender (b = -.159, $p>.05$) do not have a significant effect on attitude 2, that age (b = .024, $p<.05$) does have a significant effect on attitude 2 in model 2 with social media usage and *SM10A* as dependent variables, implying that with age people become more tolerant towards sexual harassment in the workplace when it is assumed the harassment has taken place, and that the R^2 of model 2 with Twitter usage as independent variable ($R^2 = .068$) is bigger than the R^2 of model 2 with social media usage and *SM10A* as independent variables ($R^2 = .066$). Implying that the model 2 with Twitter usage explains more of the variance in attitude 2.

Table 3. Bootstrapped estimation of the structural model including social media usage and SM10A2 as independent variables and Attitude 1 and Attitude 2 as dependent variables, N=3936

Variables	Total				
	Estimate	Standardized Coefficients	95 %CI		Fit
			Lower	Upper	
Model 1[a]					
Social media usage	-.308***	-.112***	-.472	-.144	
SM10A2	.026	.013	-.100	.151	
Female	-.080***	-.083***	-.117	-.042	
Social media usage * Female	-.058	-.015	-.288	.171	
SM10A2 * Female	.014	.005	-.154	.181	
Exposure to content about SH	.046***	.088***	.027	.064	
Experience SH in prof	-.027	-.027	-.064	.010	
Age	-.009	-.019	-.027	.008	
					R^2=.028
Model 2[b]					
Social media usage	-.442***	-.131***	-.634	-.251	
SM10A2	.122	.050	-.027	.272	
Female	-.161***	-.137***	-.205	-.118	
Social media usage * Female	.186	.040	-.087	.458	
SM10A2 * Female	-.159	-.051	-.358	.040	

Exposure to content about SH	-.080***	-.126***	-.102	-.059	
Experience SH in prof	-.091***	-.074***	-.135	-.047	
Age	.024*	.040*	.004	.045	
					R^2=.066
Model fit indices[c]					
χ^2*(df)*					80.453****(17)*
RMSEA *[90% CI]*					.031*[.024, .038]*
CFI					.987

*Note: based on 1000 bootstrap resamples, * p < .05, ** p < .01, *** p < .001*

[a] *Dependent variable is attitude 1 (attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place)*

[b] *Dependent variable is attitude 2 (attitude towards sexual harassment in the workplace when it is assumed the harassment has taken place)*

[c] *Model fit indices are for the overall structural model, thus for both model 1 and model 2*

As a second robustness check, separate analyses were done with every sub-question from *SM10*. They showed different results than the analyses with Twitter usage and social media usage, implying that the scales are different from just the items on their own and, thus, give support to the scales (*SM10A* on attitude 1 and 2*:* b = -.095, p<.01; b = -.106, p<.001, *SM10B2*: b = -.119, p<.001; b = -.165, p<.001, *SM10C*: b = -.110, p<.001; b = -.115, p<.001, *SM10D*: b = -.104, p<.001; b = -.100, p<.01, *SM10E:* -.192, p<.001; b = -.217, p<.001).

Conclusion

Social media usage has increased much over the years (PEW Research Center, 2019), where Twitter is one of the most popular social media platforms. So far, previous studies only scratch the surface of the possible consequences social media usage might have on people (Parveen, Jaafar, & Ainin, 2015; Arli, 2017; Lau, 2017; Habes, Alghizzawi, Khalaf, Salloum, &

Ghani, 2018; Dagona, Karick, & Abubakar, 2013; Al-Kandari & Hasanen, 2012; Diehl, Huber, de Zúniga, & Liu, 2019; Diehl, Huber, de Zúniga, & Liu, 2019; Su, 2021; Fardouly, Diedrichs, Vartanian, & Halliwel, 2015) (Rounsefell, et al., 2020; Magner, 2018). Inspired by the #MeToo-movement, this study looked at how Twitter usage interacts with offline attitudes towards sexual harassment. I found that Twitter usage has a negative effect on the two dimensions of attitudes towards sexual harassment in the workplace, meaning that increased Twitter usage leads to a less tolerant attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place and when it is assumed the harassment has taken place. These results show that Twitter is capable of influencing attitudes, consistent with patterns found in previous studies (Diehl, Huber, de Zúniga, & Liu, 2019; Su, 2021). However, these studies showed that social media usage is associated with lower climate scepticism and believing COVID-19 misinformation, while this study further demonstrates the potential of social media in influencing people's attitudes, especially on Twitter; Twitter usage can also influence one's attitudes towards sexual harassment in the workplace. So, online activity - Twitter usage - can influence offline characteristics; people will adhere a less tolerant attitude towards sexual harassment in the workplace the more they use Twitter. The difference in effect of Twitter usage on attitude 1 and attitude 2 is not considerably large, implying that, overall, the effect of Twitter usage does not seem to be making a distinction between attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place or when it is assumed that the harassment has taken place. Even though the found distinction between the two dimensions in the factor analysis do imply that people differentiate between attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place and when it is assumed it has, the effect of Twitter usage seems to result a more general negative attitude towards sexual harassment in the workplace. Research has been done into certain personal characteristics which predict a less tolerant attitude towards sexual harassment (McCabe & Hardman, 2005; Ohse & Stockdale, 2008), so, following the results from this study, we can add increased Twitter usage to the list of characteristics which predict a less tolerant attitude.

Considering the support for my first hypothesis, there is indication for support of my theory behind it. I theorized that through multiple affirmations of negative attitudes towards sexual harassment in the workplace online, people would adhere these negative attitudes. With increased usage of Twitter, the chance of being exposed to information and receiving multiple

affirmations online would increase and, thus, also increase the chance of someone adopting a less tolerant attitude towards sexual harassment in the workplace. Also considering research into change in attitudes towards sexual harassment in the workplace, which found that sexual harassment training consisting of information about sexual harassment and expressing negative attitude towards it, is able to change attitudes towards sexual harassment in the workplace (Antecol & Cobb-Clark, 2003; Beauvais, 1986; Bingham & Scherer, 2001; Perry, Kulik, & Schimdtke, 2006). However, looking at the results for exposure to content about sexual harassment, we can see that increased exposure to content about sexual harassment leads to a less tolerant attitude towards sexual harassment only when it is assumed the harassment has taken place while it leads to a more tolerant attitude when it is assumed the harassment has not taken place. So, concerning my theory, there seems to be indication that increased exposure to content about sexual harassment, which was believed to result in overall less tolerant attitudes towards sexual harassment in the workplace, only result in less tolerant attitudes when it is believed the harassment has taken place. Hence, whether or not it is believed the harassment has actually taken place influences how people look at the content about sexual harassment they are exposed to; if people do not see the harassment, they do not believe it has happened and might think the accuser is lying. So, if wanting to change people's attitudes towards sexual harassment in the workplace is the goal, just exposure to content about sexual harassment might not be enough; it would only work if it were believed the accuser is not lying about the assault. This result demonstrates that the effect of Twitter usage is not simply exposure to content about sexual harassment, since increased Twitter usage leads to a less overall attitude towards sexual harassment in the workplace, while just exposure to content about sexual harassment does not result in an overall less tolerant attitude towards sexual harassment, only when it is assumed that the harassment has actually taken place. Thus, we can conclude that people who use Twitter more frequently are exposed to more information and negative attitudes towards sexual harassment in the workplace and thus adhere a less tolerant attitude towards sexual harassment in the workplace only when it is assumed the harassment has taken place. However, concerning attitude towards sexual harassment in the workplace when it is assumed the harassment has not taken place, we see an opposite effect for exposure than anticipated; more exposure leads to a more tolerant attitude. Thus, we cannot assign the effect of increased Twitter usage to more exposure to content about sexual harassment.

A second important finding was that women are less tolerant towards sexual harassment in the workplace than men. Women are less tolerant towards sexual harassment in the workplace when it is assumed the harassment has not taken place and when it is assumed the harassment has taken place, which is in line with the existing literature on this subject (Foulis & McCabe, 1997; Ford & Donis, 1996; Russell & Trigg, 2004; Murrell & Dietz-Uhler, 1993). However, the effect is stronger for attitude 2, indicating that women adhere a more negative attitude towards sexual harassment in the workplace when it is assumed the harassment did take place than men compared to when it is assumed the harassment did not take place. Considering that women experience more sexual harassment than men (Arafa, Elbahrawe, Saber, Ahmed, & Abbas, 2018; Street, Gradus, Stafford, & Kelly, 2007; Foulis & McCabe, 1997), women could possibly feel more sympathy for their fellow women and thus adhere a more negative attitude. However, the experience of sexual harassment in the workplace only had a significant negative result on attitude 2, meaning that people who have experienced sexual harassment in the workplace are only more negative towards sexual harassment in the workplace when the accuser is telling the truth; they feel more sympathy with people who have also experienced sexual harassment.

Interestingly, I did not find support for the echo chamber effect for attitudes towards sexual harassment in the workplace. I theorized that through echo chambers online, men and women would only seek to join conversations or groups that supports their own views. Since men are more tolerant towards sexual harassment in the workplace, they would only seek groups that support these views, while women are less tolerant and seek out groups that support their views, creating more polarization between men and women. Thus, the effect of Twitter usage would be stronger for women than for men. However, looking at the results, the interaction effects between Twitter usage and gender are not significant. Thus, the null-hypothesis cannot be rejected. Meaning that my results do not support the phenomenon of echo chambers online for men and women concerning attitudes towards sexual harassment in the workplace. There is no indication that men only join groups that adhere a more tolerant attitude and that women join groups that adhere a less tolerant attitude towards sexual harassment in the workplace. So, while there is much support for echo chambers online creating polarization between groups (Du & Gregory, 2017; Cossard, et al., 2020; Garimella & Weber, 2017), the polarization between men and women through echo chambers concerning attitude towards sexual harassment in the workplace does not occur.

Going back to my research question and to the #MeToo-movement, earlier research has indicated that the #MeToo-movement caused less tolerant attitudes towards sexual harassment (Szekeres, Shuman, & Saguy, 2020). In this study, I wanted to determine whether this change could be attributed to Twitter usage, namely how twitter usage possibly influenced attitudes towards sexual harassment in the workplace. the results indicate that the change in attitude among people can be explained by Twitter usage: increased Twitter usage did lead to less tolerant attitudes. Since the #MeToo-movement was started and was so dominant on Twitter as mentioned before, these finding are vital in better understanding the influence of the movement on Twitter. Twitter can be used very effectively to spread less tolerant attitudes towards sexual harassment in the workplace, something which the #MeToo-movement strove to do and accomplished through Twitter, as is evident from this study. The results help us better understand the relationship of the #MeToo-movement and social media. While much was already known about the spreaders of information online within the movement (Manikonda, Beigi, Liu, & Kambhampati, 2018; Brünker, Wischnewski, Mirbabaie, & Meinert, 2020), different ways in which the hashtag were used (Xiong, Cho, & Boatwright, 2019; Afnan, Huang, Sclafani, & Bashir, 2019) and what predicted negative attitudes towards the movement (Maes, Schreurs, van Oosten, & Vandenbosch, 2019), the findings of this study show that Twitter usage results in a less tolerant attitude towards sexual harassment in the workplace, thus adding another dimension to the relationship between social media and #MeToo-movement.

Discussion

Before discussing the weaknesses of this study, I will mention the strengths of this study. First, there were a considerably high number of cases that were included in the analyses; 3938. Also, the model fits of the analyses were good, indicating that the proposed measurement and structural models fit the data well. Thirdly, the operationalization of attitude towards sexual harassment in the workplace, while having been split in two, was both reliable and valid. While the variables included in the analyses were not normally distribution and thus violated the normality assumption of the model, bootstrapping was used to bypass this problem, thus improving the study. A weakness of this study was the operationalization of Twitter usage. The questions used for this scale asked the respondent whether or not they had performed a certain behaviour online. So, without a question asking after the specific time spent on Twitter, the

decision was made to use these questions to construct a scale measuring Twitter usage. Arguing that the more behaviours the respondent has done, the more they would have spent on Twitter. The sub-questions used in the Twitter usage scale were chosen on the premise that certain functions mentioned in these questions could only be done on Twitter. However, this was not disclosed specifically in the questions. While only Twitter users retained their score on these questions and non-Twitter users were coded as 0, I could still not be sure that the questions did in fact measure Twitter usage. Thus, the validity of the Twitter usage scale is questionable, while the reliability was very good. So, while all the sub-questions do seem to measure the same construct, there are questions surrounding whether they measure Twitter usage or rather overall social media usage of Twitter users considering the content of the questions. However, looking at the nature of the questions, we could go even further to construe the content of these sub-questions as asking after online social activism instead of usage. However, one could argue for both, while the questions do seem to measure online social activism, you could also argue that if someone did all the mentioned behaviours on the platform, they do indeed use the platform more than someone who did not do these things. Still, these revelations have a great impact in the interpretation of our results. This would mean that either increased overall social media usage of Twitter users results in a less tolerant attitude towards sexual harassment in the workplace, since I cannot confidently say that the Twitter usage scale does indeed measure Twitter usage, or that increased online social activism leads to a less tolerant attitude towards sexual harassment in the workplace.

This shortcoming of this study could be a good entrance point for future research; it could explore with a different operationalization of Twitter usage, that does not give rise to these statistical and theoretical problems, if indeed Twitter usage has a negative effect on attitude towards sexual harassment in the workplace. Also, still considering the shortcoming of the operationalization of Twitter usage in this study, future research might also benefit in exploring other platforms, since I have raised questions about my operationalization of Twitter usage and if it does not instead measure overall social media usage of Twitter users. Future research could further explore if the usage of different platforms has different effects on attitude towards sexual harassment in the workplace or if it is indeed a more overall social media usage effect concerning attitude towards sexual harassment in the workplace. Another interesting future research entry point might be concerning the difference in exposure to content about sexual

harassment and Twitter usage. Future research could concern themselves with to what extent Twitter usage could be considered the same as exposure to content about sexual harassment and what differs between these two variables. Since there seems to be indication that Twitter usage has different mechanisms that results in less tolerant attitudes towards sexual harassment in the workplace when it is assumed it has taken place and when it is assumed it has not taken place. So, it would be interesting to further explore the difference between exposure to information and affirmations on Twitter. On top of this, the effect of exposure to content about sexual harassment on attitude towards sexual harassment in the workplace could be explored more. Specifically, future research could concern themselves with what kind of content results in a less tolerant attitude and what might result in a more tolerant attitude.

Overall, there are many possible directions for researchers to go in order to build upon this study. Hopefully, with those new directions, we can increase our understanding of the effect of Twitter usage or social media usage on attitudes towards sexual harassment or even attitudes in general.

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Appendix

Table 4. Model fit indices

Factor	χ^2*(df)*	RMSEA *[90% CI]*	CFI
Measurement model 1[a]	1879.035****(13)*	.181*[.174, .188]*	.795
Measurement model 2[b]	57.394****(11)*	.031*[.023, .039]*	.995
Measurement model 3[c]	109.996****(17)*	.035*[.029, .042]*	.993
Structural model 1[d]	63.977****(13)*	.032*[.024, .039]*	.989
Structural model 2[e]	80.453****(17)*	.031*[.024, .038]*	.987

*Note: * p < .05, ** p < .01, *** p < .001*

[a] *Measurement extracting two factors (attitude towards sexual harassment in the workplace and Twitter usage)*

[b] *Measurement model extracting three factors (attitude 1, attitude 2 and Twitter usage)*

[c] *Measurement model extracting three factors (attitude 1, attitude 2 and social media usage)*

[d] *Structural model with twitter usage as independent variable*

[e] *Structural model with social media usage and SM10A as independent variables*

Table 5. Results of Exploratory Factor Analysis extracting 2 factors

Factor	Item	Standardized factor loadings
Factor 1	HARASS1A_W32X	-.306
	HARASS1B_W32X	-.352
	HARASS1C_W32	.814
	HARASS1D_W32	.743
Factor 2	SM10B2	.728

	SM10D2	.799
	SM10E2	.731

*Note: * p < .05, ** p < .01, *** p < .001*

Table 6. Results of Confirmatory Factor Analysis extracting attitude towards sexual harassment in the workplace and Twitter usage

Factor	Item	Standardized factor loadings	95% CI
Attitude SH in workplace	HARASS1A_W32X	-.161***	[-.194, -.129]
	HARASS1B_W32X	-.209***	[-.241, -.177]
	HARASS1C_W32	.886***	[.848, .924]
	HARASS1D_W32	.780***	[.746, .815]
Twitter usage	SM10B2	.736***	[.716, .755]
	SM10D2	.821***	[.803, .840]
	SM10E2	.719***	[.699, .739]

*Note: * p < .05, ** p < .01, *** p < .001*

Table 7. Results of Exploratory Factor Analysis extracting 3 factors

Factor	Item	Standardized factor loadings
Factor 1	SM10B2	.737
	SM10D2	.830
	SM10E2	.709
Factor 2	HARASS1C_W32	.824

	HARASS1D_W32	.842
Factor 3	HARASS1A_W32X	.779
	HARASS1B_W32X	.764

*Note: * p < .05, ** p < .01, *** p < .001*

Table 8. Results of Confirmatory Factor Analysis extracting attitude 1, attitude 2 and Twitter usage

Factor	Item	Standardized factor loadings	95% CI
Attitude 1	HARASS1A_W32X	.696***	[.638, .755]
	HARASS1B_W32X	.854***	[.784, .924]
Attitude 2			
	HARASS1C_W32	.889***	[.831, .946]
	HARASS1D_W32	.780***	[.729, .832]
Twitter usage	SM10B2	.736***	[.717, .756]
	SM10D2	.819***	[.801, .837]
	SM10E2	.721***	[.701, .741]

*Note: * p < .05, ** p < .01, *** p < .001*

Table 9. Results of Exploratory Factor Analysis extracting 4 factors

Factor	Item	Standardized factor loadings
Factor 1	SM10B2	.674
	SM10C2	.808

	SM10D2	.872
	SM10E2	.718
Factor 2	HARASS1C_W32	.816
	HARASS1D_W32	.850
Factor 3	HARASS1A_W32X	.787
	HARASS1B_W32X	.758
Factor 4	SM10A2	.942

*Note: * p < .05, ** p < .01, *** p < .001*

Table 10. Results of Confirmatory Factor Analysis extracting attitude 1, attitude 2 and social media usage

Factor	Item	Standardized factor loadings	95% CI
Attitude 1	HARASS1A_W32X	.689***	[.639, .756]
	HARASS1B_W32X	.852***	[.783, .921]
Attitude 2			
	HARASS1C_W32	.895***	[.836, .954]
	HARASS1D_W32	.775***	[.723, .827]
Social media usage	SM10B2	.701***	[.683; .719]
	SM10C2	.808***	[.794; .821]
	SM10D2	.863***	[.851, .875]
	SM10E2	.701***	[.683, .719]

*Note: * p < .05, ** p < .01, *** p < .001*

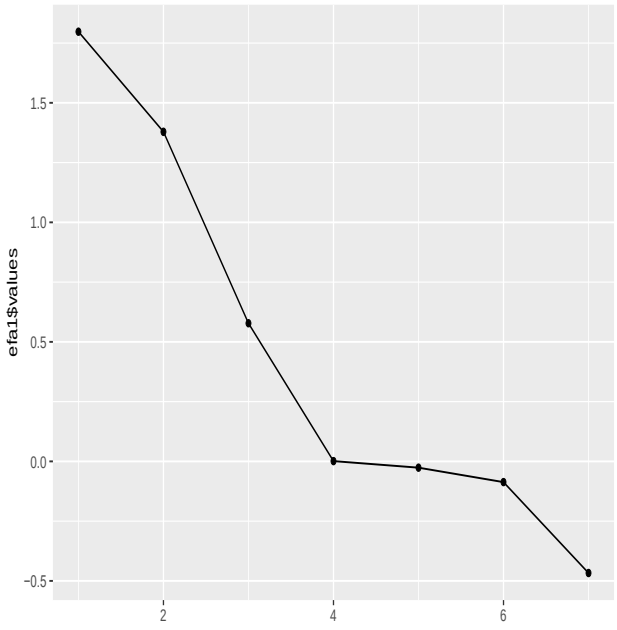


Figure 1. Kaiser's Criterion with Twitter usage items

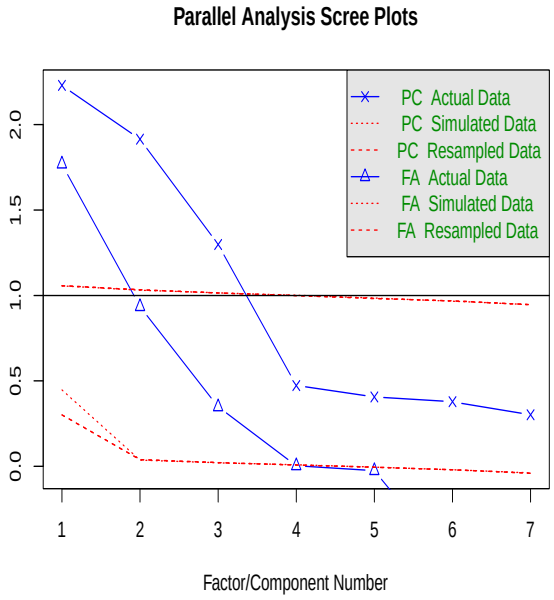


Figure 2. Parallel Analysis with Twitter usage items

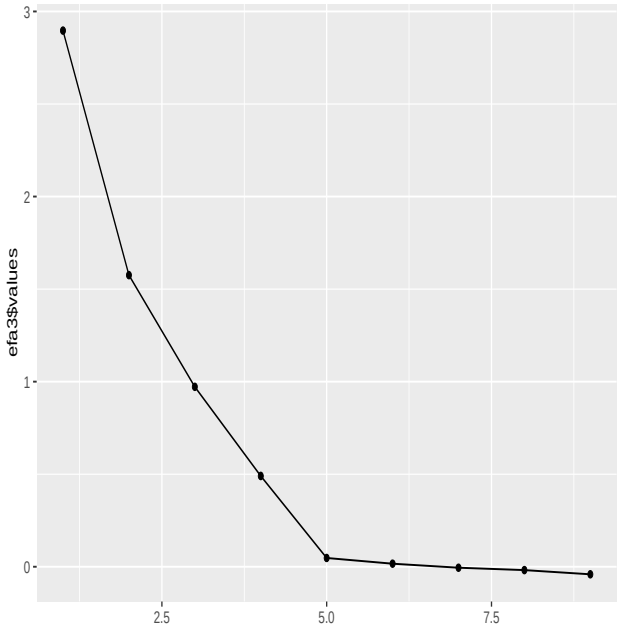


Figure 3. Kaiser's Criterion with social media usage items

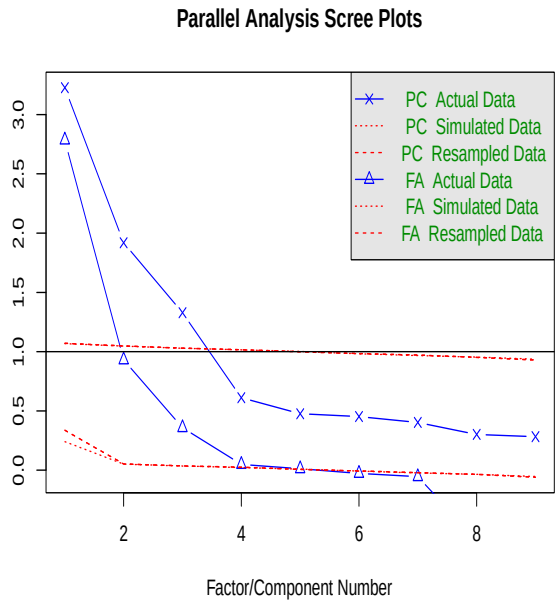
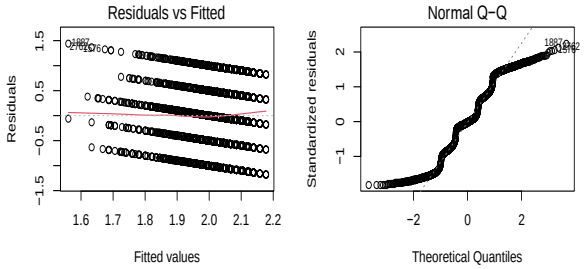


Figure 4. Parallel analysis with social media usage items



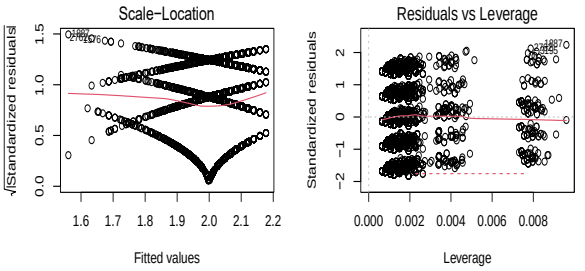
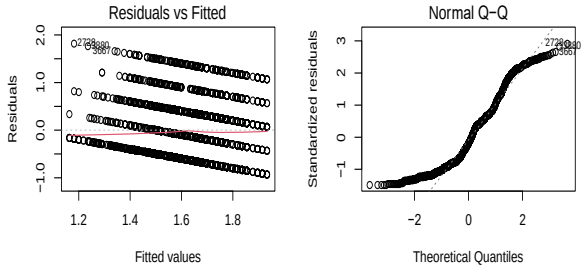


Figure 5. Diagnostic plots for regression analysis on attitude 1 including Twitter usage as independent variable



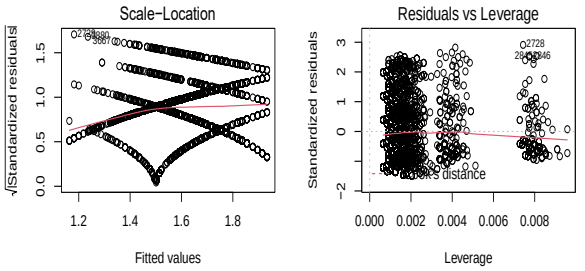


Figure 6. Diagnostic plots for regression analysis on attitude 2 including Twitter usage as independent variable

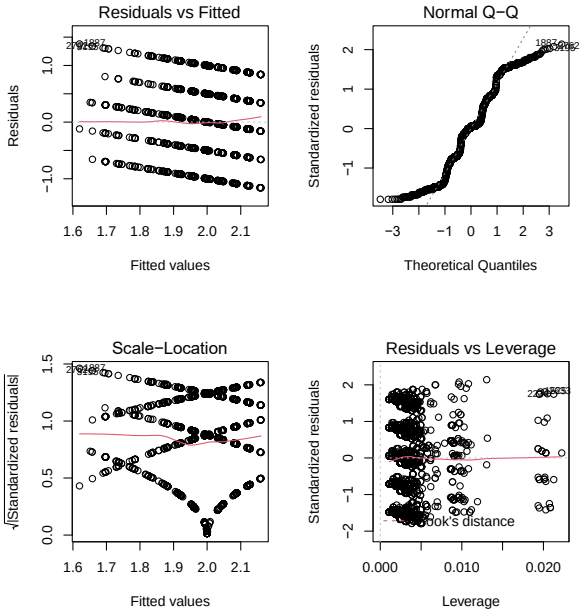


Figure 5. Diagnostic plots for regression analysis on attitude 1 including Twitter usage as independent variable

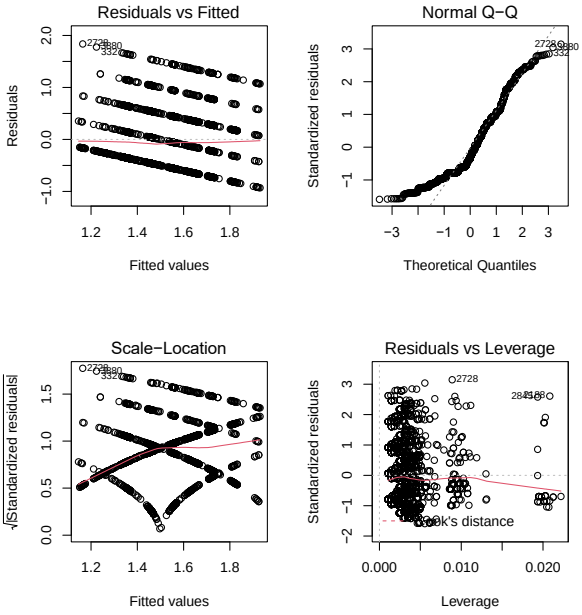
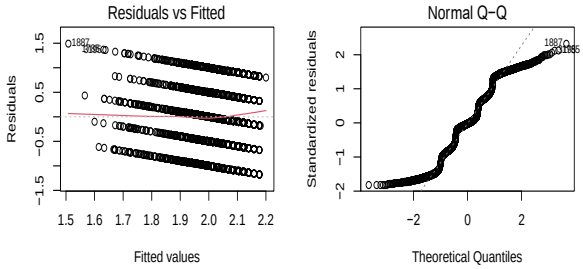


Figure 6. Diagnostic plots for regression analysis on attitude 2 including Twitter usage as independent variable



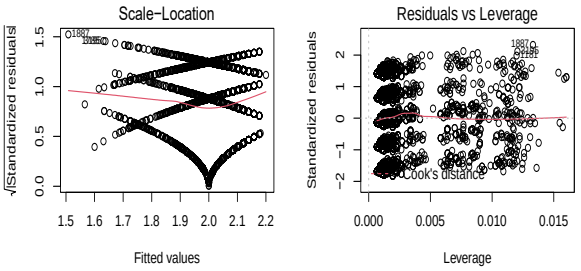
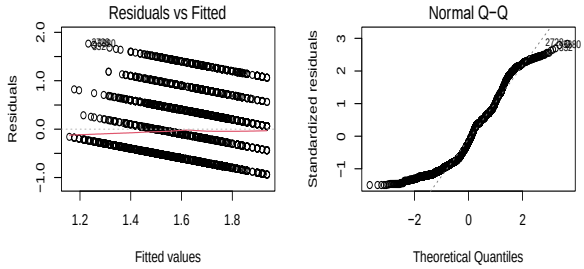


Figure 7. Diagnostic plots for regression analysis on attitude 1 including Twitter usage and SM10A2 as independent variable



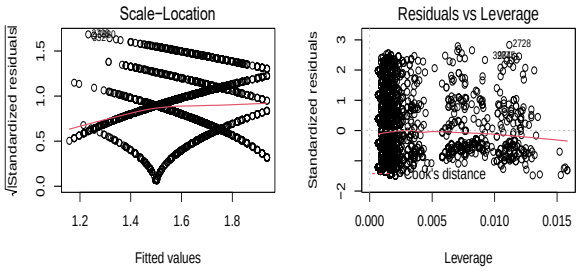


Figure 8. Diagnostic plots for regression analysis on attitude 2 including Twitter usage and SM10A2 as independent variable

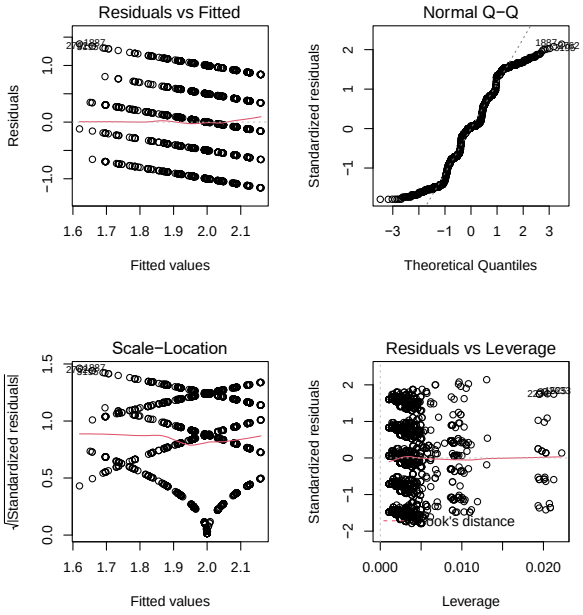


Figure 7. Diagnostic plots for regression analysis on attitude 1 including Twitter usage and SM10A2 as independent variable

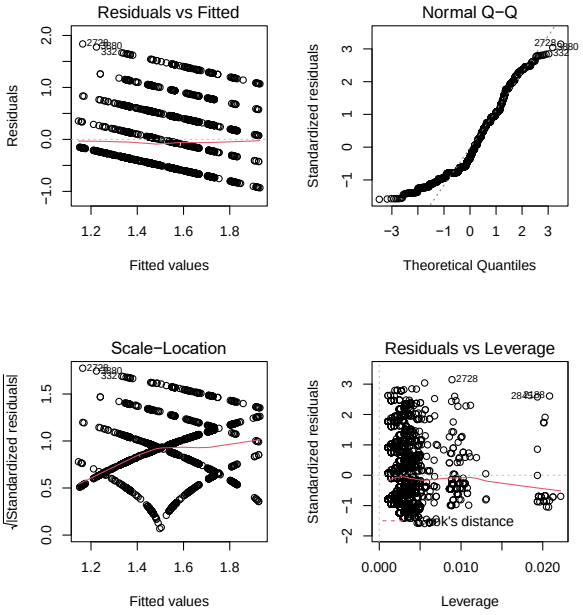


Figure 8. Diagnostic plots for regression analysis on attitude 2 including Twitter usage and SM10A2 as independent variable