More Than Just a Tweet: The Unconscious Impact of Forming Parasocial Relationships Through Social Media

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Although past work suggests that having a parasocial relationship with a celebrity can affect attitudes toward that celebrity, no work has yet examined if people are consciously aware that this is occurring and if this can explain the effects of Twitter on attitudes about Donald Trump. The current research examined the psychological mechanisms and attitudinal consequences of engaging with Donald Trump on Twitter and the degree to which people were consciously aware of the effects of their parasocial bond on their attitudes. Across an experiment ($N = 243$) and two correlational studies ($N = 373$; $N = 384$), we found that participants with preexisting political attitudes similar to Trump's showed increased liking of Trump with exposure to his Twitter feed. Those effects were mediated by a parasocial bond. In other words, when people with a political ideology similar to Trump's read his Twitter feed, they felt like they knew him personally (i.e., formed a parasocial relationship with him), which predicted them liking him even more. Conversely, people with political ideologies not similar to Trump's liked him less when exposed to his tweets. Importantly, individuals were unaware that engaging with Trump on Twitter was affecting their views of him. Implications for how the unconscious formation of parasocial relationships may affect attitude polarization and political processes in the modern world are discussed.

Keywords: parasocial relationships, awareness, politics, social media, attitude polarization

There are times in life when what our conscious (or more deliberative) minds see as the logical and "right" way to think conflicts with the direction in which our more automatic cognitions push us. This conflict can lead to discrepancies between what we *believe* we are influenced by and what we *actually* are influenced by when forming attitudes (Ariely, 2009; Vandenbergh, Carrico, & Bressman, 2011). For example, we might believe that our attitudes about someone as important as the president of the United States should be based on deliberate and careful evaluations of his policy and disposition, but it could instead be the case that a bond formed with him due to his social media use could actually be affecting our attitudes. In the current research, we argue that although our logical minds tell us that following a celebrity's Twitter feed does not make that person our friend, our primitive minds do not differentiate between the real bonds we have with our friends and the parasocial bonds we form through Twitter. Specifically, we hypothesize that, for those with a preexisting political ideology similar to Donald Trump's, reading Trump's Twitter feed will increase parasocial relationships with Trump, which will increase their liking of him. Importantly, we also hypothesize that people will be not consciously aware that their attitudes are being influenced by this parasocial relationship.

Parasocial Relationships

Social surrogates are social bonds with symbolic, rather than real, social targets (Derrick, Gabriel, & Hugenberg, 2009; Gabriel, Read,

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Young, Bachrach, & Troisi, 2017; Hartmann, 2016). Parasocial relationships are a specific kind of social surrogate: one-sided bonds with specific media figures (Gabriel, Valenti, & Young, 2016). Social surrogates help individuals to feel supported and connected (Gabriel et al., 2016; Greenwood & Long, 2009; Hartmann, 2016). For example, social surrogates can fulfill social needs by buffering against loneliness, isolation, and rejection (Gabriel et al., 2017; Greenwood & Long, 2009).

Previous work has demonstrated that parasocial relationships can be formed and maintained via repeated media exposure, such as by watching a TV show (Gabriel, Paravati, Green, & Folmsbee, 2018; Gabriel et al., 2016), or through social media exposure, including Twitter (Iannone, McCarty, Branch, & Kelly, 2018; Kim & Song, 2016). In addition, parasocial bonds can affect a variety of behaviors, including expressing attitudes in favor of the target (Foss, 2019) and endorsing the target across a variety of contexts, even years later (Gabriel et al., 2018).

The formation and maintenance of parasocial relationships can be affected by mental simulation processes. As people learn about the parasocial relationship partner through various media, they imagine what interacting with the person would be like, they imagine the world from the celebrity's perspective, and they empathize with the celebrity. These mental simulation processes can facilitate the formation of parasocial bonds because they increase the sense that the celebrity is someone known. A sense of intimacy develops out of the "shared" experiences (Mar & Oatley, 2008). With further exposure and mental simulation, this parasocial relationship may deepen and gain in importance. Social media platforms, such as Twitter, can serve as rich vehicles to facilitate mental simulation because they offer seemingly intimate information about the celebrity's mental state. By using this indirectly gained information to form models about the celebrity's thoughts and feelings, individuals can believe that they have insight into the celebrity's current and future behavior without directly interacting with the celebrity (Frith & Frith, 2006; Mar & Oatley, 2008).

Although parasocial relationships are one-sided bonds, they still feel psychologically real to the individual, and psychologically, they function similarly to traditional, two-sided relationships (Derrick, Gabriel, & Tippin, 2008; Hartmann, 2016). Despite a parasocial relationship seeming to be importantly different from traditional relationships due to its one-sided nature, the mental processes that maintain these relationships are likely highly similar to those in traditional, two-sided relationships. In other words, the mental processes that occur in traditional relationships, such as empathizing with the social target, feeling similarity to the target, vicariously sharing the emotional experiences of the target, and feeling understood by the target, can also occur in the context of a parasocial relationship. An individual who has a parasocial bond with a celebrity would not experience different mental processes when thinking about that celebrity than when thinking about a "real-life" friend; the individual would likely feel greater empathy toward that celebrity, take pride in the celebrity's successes, and feel understood by the celebrity, similar to how that individual feels about other friends in his or her social life. Considering the similarities in psychological function, it is no surprise that parasocial relationships can fulfill social needs in ways similar to traditional relationships, including buffering against feelings of rejection (Gabriel et al., 2017).

Conscious Awareness of Social Surrogates

Although individuals receive benefits from their social surrogates, they may be unaware that they are seeking out these connections when their social needs are depleted. Instead, surrogacy behaviors are often disguised as general habits, such as watching a TV show, going online, or eating comfort food (Gabriel et al., 2016). For example, after social rejection, people may turn to their favorite TV show without the knowledge that for them, this show serves as a surrogate for social connection. Similarly, when stressed, individuals may turn to comfort foods because they unconsciously remind them of a family member (Troisi & Gabriel, 2011). Unfortunately, instead of feeling proud of themselves for successful self-care, people tend to feel guilty for eating food when they were not physically hungry or watching TV when they had other things they could be doing. Thus, although no research, to date, has shown that people are not consciously aware of the psycho-

logical effects of social surrogates, people's emotional responses to utilizing social surrogates certainly suggest a low level of awareness.

Therefore, the current research directly examined conscious awareness of the effects of social surrogates in the area of parasocial bonds and political attitudes. Parasocial relationships have been shown to affect political attitudes and behavior. For example, individuals who watched *The Apprentice* were more likely to form a parasocial relationship with Trump, which in turn predicted having more favorable attitudes toward him and voting for him in the 2016 election (Gabriel et al., 2018).

For the first time in history, a president is using a personal social media account as a frequent means of communicating his thoughts directly to the American public. Over the first year of his presidency, President Trump tweeted an average of 11–12 times a day. The majority of these tweets did not discuss national policy but instead described the President's feelings, thoughts, and reactions to the world around him (Estepa, 2017). By using social media to express his own intimate thoughts and beliefs, the president's consistent use of Twitter provides his followers an opportunity to unintentionally develop a psychological bond with him. Social media provides a potent method for the formation of parasocial bonds because, unlike TV and magazines, they allow the public an opportunity to respond to the celebrity in real time.

We hypothesized that people who followed Trump on Twitter would form a parasocial bond with him, which would then predict positive attitudes. Importantly, we predicted that people would be unaware that this was happening. However, just as not all people have the same comfort foods or favorite TV shows, not all people should be affected by Trump's Twitter in the same way. Parasocial bonds with Trump may only be formed for those who are already sympathetic to him. In fact, due to attitude polarization effects, people with negative preexisting political attitudes to Trump's might actually like him less after Twitter exposure.

Attitude Polarization

Attitude polarization occurs when exposure to mixed evidence leads people with extreme attitudes to increasingly extreme attitudes (Myers & Lamm, 1976). Polarization can occur in online settings (Spears, Lea, & Lee, 1990). For example, interacting with like-minded individuals on Twitter can lead to polarization among users (Yardi & Boyd, 2010). Democrats and Republicans exposed to the Twitter feeds of politicians from the opposing party for 1 month showed polarization effects in which their initial attitudes became even more extreme (Bail et al., 2018). Thus, individuals with initially negative predispositions to Trump might like him less (rather than more) after exposure on Twitter.

The Current Work

Utilizing multiple studies and research designs, the current work carefully examined the impact of exposure to Trump's tweets on attitudes toward Trump. Based on research on parasocial bonds, we hypothesized that exposure to Trump's tweets would predict the development of parasocial relationships with Trump, which would then predict increased positive attitudes toward Trump. Furthermore, we hypothesized that people would be unaware that engaging with Trump on Twitter was increasing their liking of him. Finally, based on research on attitude polarization, we hypothesized that preexisting political attitudes would moderate those effects. Specifically, reading his tweets might actually lead to more negative attitudes for those who already had political attitudes that were in opposition to Trump's political attitudes.

We examined our hypotheses in an experiment and two correlational studies. Study 1 experimentally examined the hypothesis that, due to attitude polarization, preexisting attitudes toward Trump would moderate the effects of exposure to Trump's tweets. Study 1 also collected correlational data examining overall exposure to Trump's tweets and attitudes toward Trump. Study 2 examined the full mediational model—that for those with political attitudes in line with Trump's political ideology, exposure to his tweets would predict the formation of a parasocial bond, which would then predict liking Trump—in a correlational study. Finally, Study 3 used correlational methods to examine whether or not individuals perceived themselves to be influenced by their social media engagement with Trump when forming attitudes toward him.

Study 1

Method

Participants. We collected data using an online sample from ResearchMatch, a website that allows individuals throughout the United States to volunteer to participate in research studies. Participants were recruited on the basis of being a U.S. citizen and having a Twitter account. This research was approved by the SUNY University at Buffalo Institutional Review Board. Participants who volunteered for this study were sent a unique anonymous link and completed the survey on the external website Qualtrics. A power analysis via G*Power software using three predictors in a linear multiple regression model with the aim of yielding a small effect size ($f^2 = 0.02$) with a power of 0.8 generated a recommended sample size of 550. An estimation including a medium effect size ($f^2 = 0.15$) yielded a sample size of 77. Considering that related past work demonstrated effect sizes in the medium to large range and no smaller than .11 (Gabriel et al., 2018), yet also considering the novelty of this work, we decided to recruit a conservative sample of 200 individuals. At the end of survey collection, a total of 243 individuals participated in this study (179 women, 53 men, 11 did not specify; mean age = 46.9 years, standard deviation [SD] = 15.10; 93.8% had a college degree or higher).[1]

Design. After indicating their interest in taking part in the study and agreeing with consent information, participants were randomly assigned to one of two conditions.

In the experimental condition, participants were instructed to spend 5 min reading Donald Trump's Twitter feed. They were unable to advance to the next screen until at least 5 min had passed but were instructed that they could take as much time as they wished to read the tweets. The tweets shown were taken directly from Trump's personal Twitter page and included all tweets from the 10 days directly prior to the launch of the study (July 2018). The content of these tweets was not edited in any way; however, the screen was programmed so that participants could not read replies or comments to the tweets. Instead, they were only able to view the tweets that Trump himself wrote over the past 10 days.

Immediately after reading the tweets for at least 5 min, participants were then asked about their attitudes toward Trump. Then, they completed various other measures, including questions about their Twitter use, media consumption, political orientation, and demographics.

In the control condition, participants were first asked the questions about their attitudes toward Trump. Thus, these attitudes were not assessed following exposure to Trump's Twitter feed, as was done in the experimental condition; instead, they measured baseline attitudes toward Trump. After completing these questions, they then viewed Trump's Twitter feed for at least 5 min. Finally, they completed the various other measures about their Twitter use, media consumption, political orientation, and demographics.

Measures.

Current attitudes toward Donald Trump. To assess participants' attitudes toward Donald Trump, participants used a 7-point Likert scale (1 = *not at all*, 7 = *very much*) to respond to three items related to their current attitudes toward Trump. These items included how much they felt he was currently doing a good job as president, how much they thought he was keeping his promises to date, and how much they currently liked Trump (Cronbach's alpha = .86).[2]

Exposure to Donald Trump on Twitter. To assess participants' exposure to Donald Trump on Twitter, we asked five questions, including how long they had been following Trump on Twitter, how often they retweeted Trump's tweets, how often they replied to Trump's tweets, and how often they retweeted or replied to others' tweets written in direct response to Trump's tweets (Cronbach's alpha = .69).

Political orientation. In order to measure the extent to which an individual shared a po-

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[1] Participant data were included in the final sample if the participant had fully completed the online study. No data-quality checks were used for this study (e.g., attention checks).

[2] In both Studies 1 and 2, we measured other attitudes related to Trump as well (e.g., agreement with his policies and style). We chose to examine just these three items because they were the only questions that directly tapped into current feelings about Trump rather than an overall evaluation. However, across both studies, analysis of a scale constructed with all of the items instead of this subset led to a highly similar pattern of results.

litical ideology with Trump, we needed to account for how much participants identified as Republican and conservative, as well as how much they endorsed authoritarian views. Past work has demonstrated that right-wing authoritarianism predicts Trump support (Choma & Hanoch, 2017). With this in mind, we used a composite of four items (Cronbach's alpha = .92): right-wing authoritarianism (Zakrisson, 2005), how much they identified as a Democrat (measured on a 1–5 scale and reverse scored), how much they identified as a Republican (measured on a 1–5 scale), and how much they identified as liberal versus conservative (1 = *very liberal* and 5 = *very conservative*). Thus, a higher score for this composite indicated that the individual likely had preexisting political attitudes in line with Trump (e.g., leaned right politically), and a lower score in this composite indicated that the individual did not share the political ideology of Trump (e.g., leaned left politically).

Consumption of political information. In order to distinguish the unique effect of exposure to Trump on Twitter, we needed to create a measure that would encapsulate other media exposure to Trump. Therefore, we asked participants to answer seven items related to how often they consumed political information from a variety of media sources, including newspapers, blogs, podcasts, radio, and TV networks, including Fox News Network (Cronbach's alpha = .73).

Demographics. General demographics were collected at the end of the survey.

Results

An analysis of the descriptive statistics of the variables of interest revealed that our sample, on average, did not have a strong positive attitude toward Trump (on a 1–7 scale, mean [M] = 2.61, SD = 1.56). Our sample skewed slightly toward identifying as more Democratic (on a 1–5 scale, M = 3.47, SD = 1.51). Thus, our sample was a conservative test of our hypothesis that Twitter would increase positive attitudes toward Trump for those with preexisting political attitudes that were similar to Trump's political ideology. Our sample had a fairly normal distribution of exposure to political media (on a 1–5 scale, M = 2.32, SD = .74).

We predicted that our manipulation would lead to differences in reported attitudes toward Trump. For those with preexisting political attitudes that aligned with Trump's political attitudes, we expected that viewing Trump's tweets would lead to higher positive attitudes toward Trump. For those with preexisting political attitudes that did not align with Trump's political attitudes, we expected that viewing Trump's tweets would lead to lower positive attitudes toward Trump. Thus, we expected to see an interaction between the experimental condition and preexisting political attitudes toward Trump in predicting current positive attitudes toward Trump. To test this, we ran a regression analysis that included the experimental condition, preexisting political attitudes, and the interaction term for the experimental condition and preexisting political attitudes. This analysis revealed that both main effects were significant: experimental condition, β = 0.10, $t(232)$ = 3.44, p < .02; preexisting political attitudes, β = 0.61, $t(232)$ = 10.15, p < .001. Both predicted positive current attitudes toward Trump.

As predicted, the interaction term for the experimental condition and preexisting political attitudes was significant, β = 0.20, $t(232)$ = 3.39, p < .001. Simple slopes analysis revealed a significant effect of exposure to Trump on Twitter in predicting current positive attitudes toward Trump for those high (1 SD above the mean) on preexisting political attitudes in line with Trump's political ideology, β = 0.25, $t(232)$ = 4.11, p < .001, but not for those low (1 SD below the mean) on preexisting political attitudes in line with Trump's political ideology, β = −0.04, $t(232)$ = −0.68, p = .49. Thus, as predicted, reading Trump's tweets led to more positive current attitudes toward Trump for those with preexisting political attitudes in line with Trump's political ideology (see Figure 1). However, for those with preexisting political attitudes that were not similar to Trump's political ideology, we did not find a decrease in positive current attitudes toward Trump after reading his tweets, although the means were in the predicted direction.

We also examined the correlational data that we collected on participants' average exposure to Trump's tweets. We predicted that a similar pattern would emerge for exposure to Trump via Twitter in participants' everyday lives. In other words, we expected that participants' re-
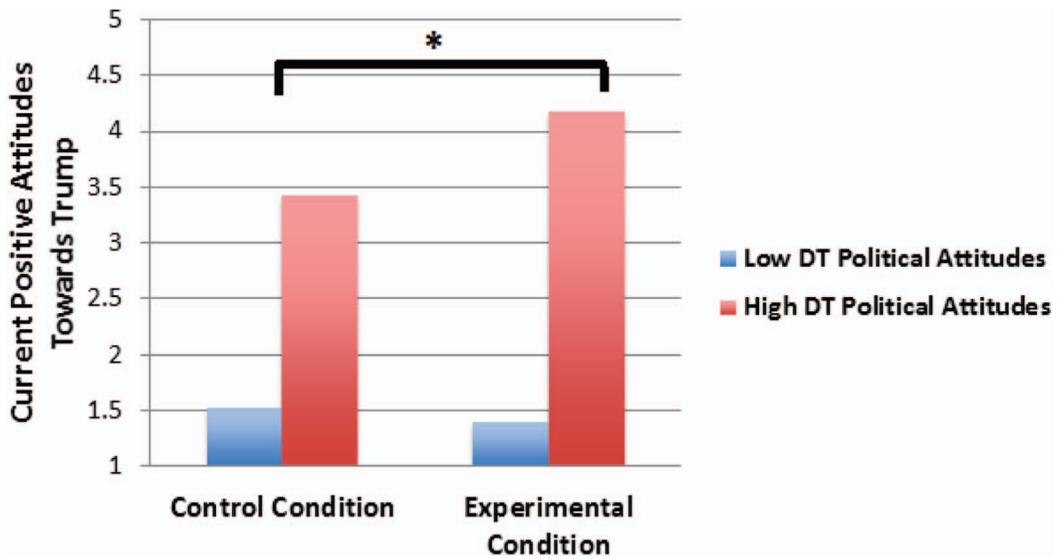
Figure 1. Results from Study 1: The interaction between the experimental condition and participants' political orientation in predicting current positive attitudes toward Trump. Asterisks indicate significant differences between conditions ($p < .05$). See the online article for the color version of this figure.

ported exposure to Trump's tweets in their lives would predict more positive current attitudes toward Trump for those with preexisting political attitudes that were similar to Trump's political ideology but would predict more negative attitudes toward Trump for those with preexisting political attitudes that were not similar to Trump's political ideology. Thus, we expected to see an interaction between exposure to Trump on Twitter and preexisting political attitudes in predicting the current positive attitudes toward Trump. To test this, we ran a regression analysis that included exposure to Trump on Twitter, preexisting political attitudes, and the interaction term for exposure to Trump on Twitter and preexisting political attitudes. This analysis revealed that two variables were significant predictors of current positive attitudes toward Trump: preexisting political attitudes, $\beta = 0.73$, $t(217) = 16.41$, $p < .001$, and the interaction term for exposure to Trump on Twitter and preexisting political attitudes, $\beta = 0.20$, $t(217) = 4.39$, $p < .001$. There was no main effect for exposure to Trump on Twitter on attitudes toward Trump, $p = .77$. Simple slopes analysis revealed a significant effect of exposure to Trump on Twitter in predicting current positive attitudes toward Trump for those with

low (1 *SD* below the mean) preexisting political attitudes that were similar to Trump's political ideology, $\beta = -0.17$, $t(217) = -2.59$, $p = .01$, but not for those with high (1 *SD* above the mean) preexisting political attitudes that were similar to Trump's political ideology, $\beta = 0.01$, $t(217) = .29$, $p = .77$. Thus, consistent with attitude polarization, exposure to Trump on Twitter predicted less positive current attitudes toward Trump for those with preexisting political attitudes that were not similar to Trump's political ideology. Contrary to predictions, for those with preexisting political attitudes that were similar to Trump's political ideology, exposure to Trump on Twitter did not increase their positive current attitudes toward him, although the means were in the expected direction (see Figure 2).

Exposure to Trump via Twitter was significantly related to general exposure to political media ($r = .24$; $p < .001$) and to watching the Fox News Network ($r = .18$; $p < .001$). Thus, it could be argued that those who were exposed to Trump's Twitter feed were also exposed to him on various other forms of media, and this overall exposure to Trump could be driving the effects observed in these data. To investigate whether our effects were specific to exposure to
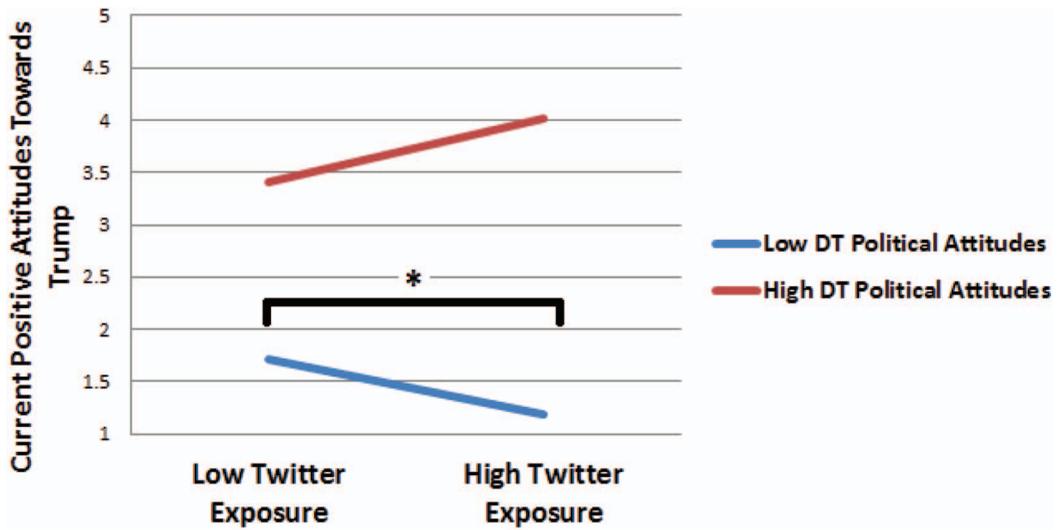
Figure 2. Results from Study 1: The interaction between exposure to Trump on Twitter and participants' preexisting political attitudes in predicting current positive attitudes toward Trump. Asterisks indicate significant differences between exposure rates ($p < .05$). See the online article for the color version of this figure.

Trump on Twitter, we reran the regression and included the measure of consumption of other political information and the interaction of preexisting political attitudes with the consumption of other political information. Importantly, in these analyses, the interaction of exposure to Trump on Twitter and preexisting political attitudes remained significant for attitudes toward Trump, $\beta = 0.19$, $t(232) = 4.17$, $p < .001$. We also reran the regressions and included just the item related to watching Fox News and the interaction of preexisting political attitudes with the consumption of Fox News in the regressions. Again, the interaction of exposure to Trump on Twitter and preexisting political attitudes remained significant for attitudes toward Trump, $\beta = 0.15$, $t(232) = 3.33$, $p < .001$, even when accounting for exposure to Fox News. In summary, our data suggest that exposure to Trump on Twitter plays a unique role in predicting attitudes toward him, above and beyond other media exposure—even more than positive media coverage, such as that broadcasted by politically conservative news networks.

Brief Discussion

Study 1 found that exposure to Trump's Twitter feed led individuals with preexisting political attitudes in line with Trump's political ideology to like him more. Furthermore, correlational data suggested that participants with similar political ideologies to Trump had more positive attitudes toward him with increased exposure to his tweets. Thus, Study 1 was consistent with our hypothesis that Trump's tweets would lead to attitude polarization in which those with similar preexisting political attitudes would like him more and those with dissimilar preexisting political attitudes would dislike him more. The second study attempted to replicate these findings and also examine our proposed mediator for the increased liking felt by Trump's fans: parasocial relationships.

Study 2

Method

Participants. Similar to Study 1, we collected data using an online sample from ResearchMatch. Participants were recruited on the basis of being a U.S. citizen and having a Twitter account. This research was approved by the SUNY University at Buffalo Institutional Review Board. Participants who volunteered for this study were sent a unique anonymous link and completed the survey on the external web-

site Qualtrics. A power analysis via G*Power software using five predictors in a linear multiple regression model with the aim of yielding a small effect size ($f^2 = 0.02$) with a power of 0.8 generated a recommended sample size of 647. An estimation including a medium effect size ($f^2 = 0.15$) yielded a sample size of 92. Considering that our found effect sizes were in the medium range in Study 1 as well as in related past work (Gabriel et al., 2018), we decided to recruit a conservative sample of 375 individuals. At the end of survey collection, a total of 373 individuals participated in this study (271 women, 93 men, 9 did not specify; mean age = 47.83 years, $SD = 14.01$; 97.4% had a college degree or higher).[3]

Measures.

Parasocial relationship with Donald Trump. We measured participants' parasocial relationships with Trump using the PSI-Process Scales (Schramm & Hartmann, 2008). This scale consists of 13 items that measure how much participants feel connected to and understand a celebrity, including items such as "Donald Trump makes me feel as if I am with someone I know well;" "I feel that I understand the emotions Donald Trump experiences;" and "I feel like I have very little understanding of Donald Trump as a person" (reverse scored). Participants used a 5-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) to indicate their responses to these 13 items (Cronbach's alpha = .78).

The measures for exposure to Donald Trump on Twitter (α = .77), attitudes toward Donald Trump (α = .87), political orientation (α = .86), consumption of political information (α = .70), and demographics were all the same as the measures we used to assess these constructs in Study 1.

Results

Similar to Study 1, an analysis of the descriptive statistics of the variables of interest revealed that our sample, on average, did not have a strong positive attitude toward Trump (on a 1–7 scale, $M = 2.61$, $SD = 1.56$). Our sample skewed slightly toward identifying as more Democratic (on a 1–5 scale, $M = 3.31$, $SD = 1.41$). Thus, our sample was a conservative test of our hypothesis because the overall sample was much less likely to have positive current

attitudes toward Trump than a sample that identified more with his political ideology. Our sample had a fairly normal distribution of parasocial relationship with Trump (on a 1–5 scale, $M = 2.11$, $SD = .79$) as well as a fairly normal distribution of exposure to political media (on a 1–5 scale, $M = 2.47$, $SD = .77$).

We predicted that exposure to Trump via Twitter would predict a parasocial relationship but only for those with preexisting political attitudes that were similar to Trump's political ideology. Thus, we expected to see an interaction between exposure to Trump on Twitter and preexisting political attitudes in predicting the formation of a parasocial relationship with Trump. To test this, we ran a regression analysis that included exposure to Trump on Twitter, preexisting political attitudes, and the interaction term for exposure to Trump on Twitter and preexisting political attitudes (see Figure 3). This analysis revealed that all three variables were significant predictors of having a parasocial relationship with Trump. Exposure to Trump on Twitter, $\beta = 0.20$, $t(372) = 4.92$, $p < .001$, and preexisting political attitudes, $\beta = 0.60$, $t(372) = 15.33$, $p < .001$, both predicted having a parasocial relationship with Trump. In addition, the interaction term for exposure to Trump on Twitter and preexisting political attitudes was significant, $\beta = 0.14$, $t(372) = 3.40$, $p < .001$. Simple slopes analysis revealed a significant effect of exposure to Trump on Twitter in predicting the formation of a parasocial relationship with Trump for those with high (1 SD above the mean) preexisting political attitudes that were similar to Trump's political ideology, $\beta = 0.31$, $t(372) = 6.58$, $p < .01$, but not for those with low (1 SD below the mean) preexisting political attitudes that were similar to Trump's political ideology, $\beta = 0.08$, $t(372) = 1.49$, $p = .14$. Thus, as predicted, exposure to Trump on Twitter predicted a parasocial relationship with Trump for those with preexisting political attitudes that were similar to Trump's political ideology. Participants with dissimilar preexisting political attitudes did not

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[3] Similar to Study 1, participant data were included in the final sample if the participant had fully completed the online study. No data-quality checks were used for this study (e.g., attention checks).
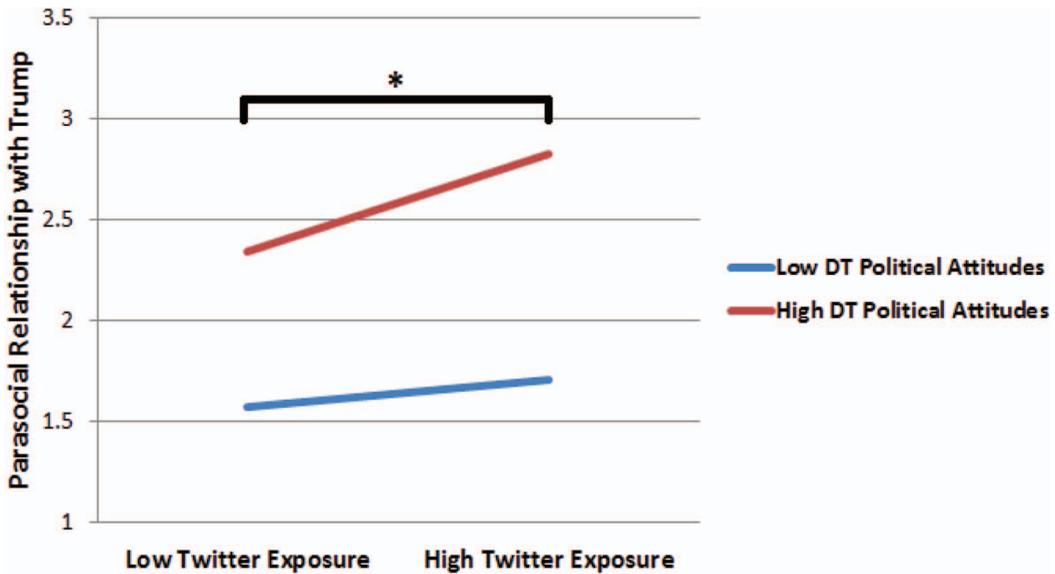
Figure 3. Results from Study 2: The interaction between exposure to Trump on Twitter and participants' preexisting political attitudes in predicting a parasocial relationship with Trump. Asterisks indicate significantly different predicted means ($p < .05$). See the online article for the color version of this figure.

form a bond with him, regardless of exposure to his Twitter feed.

We also predicted that exposure to Trump on Twitter would predict having more positive current attitudes toward Trump for those with preexisting political attitudes that were similar to Trump's political ideology but would predict more negative ones for those with preexisting political attitudes that were not similar to Trump's political ideology. Thus, we ran a regression analysis that included exposure to Trump on Twitter, preexisting political attitudes, and the interaction term for exposure to Trump on Twitter and preexisting political attitudes in predicting current positive attitudes toward Trump (see Figure 4). This analysis revealed two significant predictors of having current positive attitudes toward Trump. First, preexisting political attitudes, $\beta = 0.73$, $t(372) = 20.92$, $p < .001$, predicted having more positive attitudes toward Trump. Similar to Study 1, having preexisting political attitudes in line with Trump's political ideology predicted having current positive attitudes toward Trump.

The interaction term for exposure to Trump on Twitter and preexisting political attitudes

was also significant, $\beta = 0.10$, $t(232) = 2.93$, $p < .01$. Simple slopes analysis revealed a significant effect of exposure to Trump on Twitter in predicting current positive attitudes toward Trump for those with high (1 *SD* above the mean) preexisting political attitudes that were similar to Trump's political ideology, $\beta = 0.13$, $t(372) = 3.07$, $p < .01$, but not for those with low (1 *SD* below the mean) preexisting political attitudes that were similar to Trump's political ideology, $\beta = 0.382$, $t(372) = -.876$, $p = .38$. The more that people with political attitudes similar to Trump's political ideology were exposed to Trump on Twitter, the more they liked him. Although there was no significant effect for those with preexisting political attitudes that were not similar to Trump's political ideology, as with Study 1, the means were in the predicted direction.

Interestingly, there was no relationship between following Trump on Twitter and current positive attitudes toward Trump ($p = .31$). Thus, it does not seem as if people who like Trump are simply more likely to follow him on Twitter; indeed, they are not. Instead, as we predicted, the data are more consistent with our hypothesis that exposure to Trump on Twitter
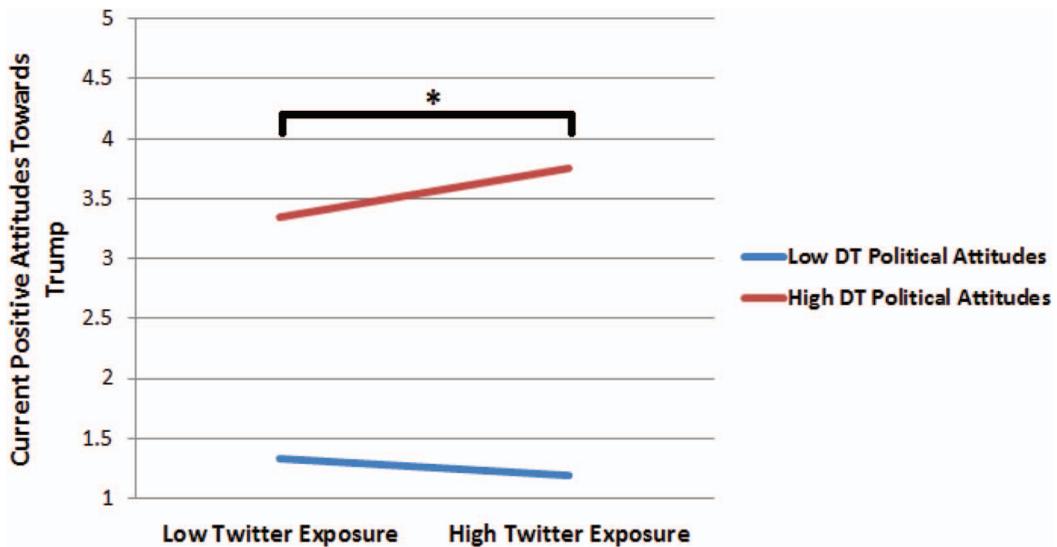
Figure 4. Results from Study 2: The interaction between exposure to Trump on Twitter and participants' preexisting political attitudes in predicting current positive attitudes toward Trump. Asterisks indicate significantly different predicted means ($p < .05$). See the online article for the color version of this figure.

affects people in different ways based on their preexisting political attitudes.

The first two regressions suggest that engaging with Trump on Twitter is related to increased parasocial relationships and more positive attitudes about Trump for those with preexisting political attitudes that were similar to Trump's political ideology. However, we were concerned that this might not actually relate to Twitter use but simply be due to general media exposure to Trump. Indeed, exposure to Trump via Twitter was significantly related to exposure to political media ($r = .39$; $p < .001$). To investigate whether our effects were specific to exposure to Trump on Twitter, we reran both regressions and included the measure of consumption of other political information and the interaction of preexisting political attitudes with the consumption of other political information in the regressions. Importantly, in these analyses, the interaction of exposure to Trump on Twitter and preexisting political attitudes remained significant for predicting both parasocial relationships with Trump, $\beta = 0.14$, $t(372) = 3.54$, $p < .001$, and current positive attitudes toward Trump, $\beta = 0.09$, $t(372) = 2.57$, $p < .01$. Similarly, when controlling for Fox News exposure specifically, the interaction

of exposure to Trump on Twitter and preexisting political attitudes remained significant for predicting both parasocial relationships with Trump, $\beta = 0.14$, $t(372) = 3.72$, $p < .001$, and current positive attitudes toward Trump, $\beta = 0.10$, $t(372) = 3.17$, $p < .01$. Thus, our data suggest that exposure to Trump on Twitter plays a unique role in predicting both parasocial relationships with him and attitudes toward him, above and beyond other media exposure.

Our prediction was not only that exposure to Trump on Twitter would be related to both parasocial relationships and attitudes, but also that parasocial relationships would mediate the relationship between Twitter and attitudes for those with similar political attitudes (as similarly demonstrated by Gabriel et al., 2018). To test this hypothesis, we constructed a moderated mediational model using the Hayes (2013) PROCESS macro. This analysis generated a 95% confidence interval (CI) for the indirect effect using 5,000 bootstrap samples, whereas CIs that do not include zero indicate a significant effect. For this analysis, using Model 7, we set exposure to Trump on Twitter as the independent variable, parasocial relationship with Trump as the mediator, preexisting political attitudes (highly similar to Trump = 1 *SD* above

the mean; low in similarity to Trump = 1 *SD* below the mean) as the moderator of the path between exposure to Trump on Twitter and a parasocial relationship with Trump, and we set current positive attitudes toward Trump as the outcome variable. This moderated mediation analysis revealed a conditional effect of exposure to Trump on Twitter on current positive attitudes toward Trump, as mediated by having a parasocial relationship with Trump. This mediation was conditional on participants' fitting preexisting political attitudes (see Figure 5). The interaction effect of political attitudes and exposure to Trump on Twitter on attitudes toward Trump was significant, $\beta = 0.18$, standard error [*SE*] $= 0.03$, $p < .01$. For those with preexisting political attitudes that were similar to Trump's political ideology, the effect of exposure to Trump on Twitter on the formation of a parasocial relationship with Trump was significant, $\beta = 0.32$, $SE = 0.05$, $p < .01$, but this was not the case for those with preexisting political attitudes that were not similar to Trump's political ideology, $\beta = 0.09$, $SE = 0.6$, $p = .10$. In other words, people with political attitudes similar to Trump's political ideology

were likely to form a parasocial bond with him when exposed to him on Twitter, but this was not the case for people with dissimilar political attitudes. For all participants, the formation of a parasocial relationship with Trump predicted more positive current attitudes toward Trump, $\beta = .78$, $SE = 0.03$, $p < .01$. The indirect effect of exposure to Trump on Twitter on current attitudes toward Trump was significant for those with preexisting political attitudes that were similar to Trump's political ideology, 95% CI [0.17, 0.34], but not for those with preexisting political attitudes that were dissimilar to Trump's political ideology, 95% CI [–.02, .16]. Thus, our hypotheses were supported. Participants with political attitudes similar to Trump's political ideology liked him more the more they were exposed to him on Twitter. Importantly, that effect was mediated by parasocial relationships with Trump. In other words, participants with political attitudes similar to Trump's formed parasocial bonds with him to the degree that they were exposed to him on Twitter. The formation of those bonds predicted their increase in current attitudes to Trump.
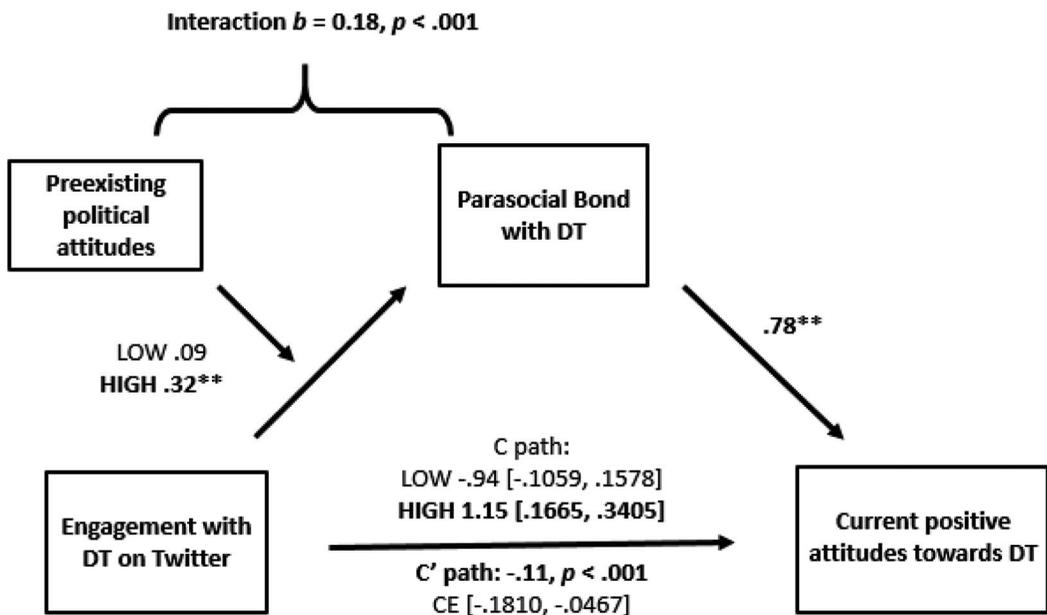

Figure 5. Results from Study 2: Moderated mediational model showing the effect of exposure to Trump on Twitter on current positive attitudes toward Trump, as moderated by a parasocial relationship with Trump and participants' preexisting political attitudes. Asterisks indicate significant path coefficients (** denoting $p < .01$).

Because these analyses were correlational in nature, we wanted to examine alternate paths. We ran two more analyses to examine whether other mediation models would show similar effects. First, we wished to examine whether having a parasocial relationship predicted seeking out Trump on Twitter, which then predicted liking him more. To examine this, we constructed a moderated mediation model with the proposed independent variable and proposed mediator flipped; using Model 7, we set a parasocial relationship with Trump as the independent variable, exposure to Trump on Twitter as the mediator, preexisting political attitudes (highly similar to Trump = 1 SD above the mean; low in similarity to Trump = 1 SD below the mean) as the moderator of the path between parasocial relationship with Trump, and exposure to Trump on Twitter and current positive attitudes toward Trump as the outcome variable. However, the confidence interval of this moderated mediation model included zero, indicating that this analysis was not significant, CI [−0.02, 0.01].

Second, we wished to examine whether exposure to Trump on Twitter would predict liking Trump more, which would then lead to forming a bond with him. To test that model, we set exposure to Trump on Twitter as the independent variable, positive attitudes toward Trump as the mediator, preexisting political attitudes (highly similar to Trump = 1 SD above the mean; low in similarity to Trump = 1 SD below the mean) as the moderator of the path between exposure to Trump on Twitter and current positive attitudes toward Trump, and a parasocial relationship with Trump as the outcome variable. The confidence interval of this model did not include zero, indicating that it was a significant analysis, CI [0.02, 0.12]. However, this model received less support than our proposed model, CI [0.03, 0.15].

In this alternate model, the interaction effect of political base and exposure to Trump on Twitter on attitudes toward Trump was significant, $\beta = 0.09$, $SE = 0.03$, $p < .01$. For those with preexisting political attitudes that were similar to Trump's political ideology, the effect of exposure to Trump on Twitter on forming positive attitudes toward Trump was significant, $\beta = 0.14$, $SE = 0.04$, $p < .01$, but this was not the case for those with preexisting political attitudes that were not similar to Trump's political ideology, $\beta = -.04$, $SE = 0.5$, $p = .43$. In other words, people with political attitudes similar to Trump's political ideology were likely to form more positive views of him when exposed to him on Twitter, but this was not the case for people with preexisting political attitudes that were not similar to Trump's political ideology. For all participants, the formation of current positive attitudes toward Trump predicted the formation of a parasocial relationship with him, $\beta = .75$, $SE = 0.03$, $p < .001$. The indirect effect of exposure to Trump on Twitter on a parasocial bond with Trump was significant for those with preexisting political attitudes similar to Trump's (95% CI [0.15, 0.21]), but not for those with preexisting attitudes not similar to Trump's (95% CI [−.09, .03]). Thus, it is possible that Twitter exposure can also affect the parasocial bond through increased liking; however, the more robust effect seems to be Twitter exposure leading to increased liking through the parasocial bond.

Brief Discussion

In support of our hypothesis, Study 2 found that exposure to Trump on Twitter led those with preexisting political attitudes similar to Trump's political ideology to be more likely to form a parasocial relationship with him. This bond, in turn, predicted increased positive current attitudes toward Trump. Thus, our moderated mediation model was supported.

Although Studies 1 and 2 consistently demonstrate support for our hypothesis that Twitter exposure could lead to an increased positive attitude toward Trump, it remained unclear if individuals were aware of the influence of Twitter on their attitudes. Thus, the third study examined if those who liked Trump were aware that exposure to his tweets was affecting their attitudes toward him.

Study 3

Method

Participants. We collected data using a sample of students at a large public university. This research was approved by the SUNY University at Buffalo Institutional Review Board. Participants who volunteered for this study

completed the survey on the external website Qualtrics. A total of 384 individuals participated in this study (157 women, 224 men, 3 did not specify; mean age = 19.22 years, SD = 1.99; 93.8% had a college degree or higher).

Design. After indicating their interest in taking part in the study and agreeing with consent information, participants completed various measures as part of a larger project. Relevant to this project were questions about current attitudes, beliefs about social media exposure, and general demographics.

Measures.

Current attitudes toward Donald Trump. To assess participants' attitudes toward Donald Trump, participants used a 7-point Likert scale (1 = *very positive*, 7 = *very negative*) to respond to the item, "What is your opinion of Donald Trump?"

Awareness of Twitter's impact on attitudes toward Trump. To assess participants' awareness of the impact of Donald Trump's Twitter use on their opinions of him, we asked three questions: if they thought they would have a different opinion of Trump if he did not tweet, if they thought their opinion would be worse if he did not tweet, and if they thought their opinion would be better if he did not tweet.

Results

An analysis of the descriptive statistics of the variables of interest revealed that our sample, on average, did not have a strong positive attitude toward Trump (on a 1–7 scale, with 1 indicating the most positive attitudes, M = 4.96, SD = 1.76).

We predicted that the parasocial bonds would operate outside of awareness, and thus people who liked Trump would be unaware that engaging with Trump on Twitter was increasing their liking of him. In other words, we thought that people would be unconsciously influenced by their engagement with Trump through social media.

To further examine how participants' conscious beliefs about how social media use may affect their attitudes differ from reality, we examined the opinions of those who had preexisting positive attitudes toward Trump and the direction of their expected attitude changes. Participants were categorized as having positive attitudes toward Trump (below a 4; N = 73) or

as having negative attitudes toward Trump (above a 4; N = 217). Studies 1 and 2 suggested that individuals who had strong positive attitudes toward Trump formed a parasocial relationship with him and subsequently developed even stronger positive attitudes toward him when exposed to his Twitter feed. However, we expected that these individuals would not be aware of this effect and might even report believing the opposite—that their positive opinion of Donald Trump would be better if he did not use Twitter. Indeed, our findings support this expectation. When asked if their opinion of Trump would worsen if he did not use Twitter, only 4.1% of participants with highly positive attitudes toward Trump reported "yes." Importantly, 34.2% of these participants believed that their opinion of Donald Trump would improve if he did not tweet. Thus, in support of our hypothesis, participants seemed unaware that engaging with Trump on Twitter was affecting their attitudes and strengthening their positive feelings toward him. If anything, participants erroneously assumed that his Twitter usage was actually hurting their attitudes toward him.

Brief Discussion

In Study 3, people with preexisting positive attitudes toward Trump were largely unaware that viewing his tweets further bolstered their positive attitudes toward him. Instead, these individuals frequently reported that they believed their opinion would improve if he did not tweet. This is important to consider because it suggests that individuals are unaware that media exposure is affecting their attitudes toward political figures. Studies 1 and 2 robustly demonstrate that engagement with Trump on Twitter led individuals in his political demographic to like him more and individuals not in this demographic to like him less. In conjunction, these data suggest that individuals are unaware of the impact that parasocial relationships developed through repeated media exposure have on them.

General Discussion

We live in unprecedented times in which the President of the United States (POTUS) has a clear line of communication to the American people through a novel medium, Twitter, which he uses, on average, multiple times a day. The

efficacy of these communications and the public's awareness of the influence of these communications have yet to be tested. The current research is a first attempt to understand how this drastic change in presidential communications may affect attitudes toward the President as well as awareness of these attitude changes. Based on research on parasocial relationships and attitude polarization, we predicted that people who had preexisting political attitudes that were not similar to Trump's political ideology would like him less when they were exposed to his tweets, whereas those with preexisting political attitudes that were similar to Trump's political ideology would like him more after exposure to his tweets. Further, we predicted that these individuals would do so, at least in part, due to increased parasocial bonds. Finally, we hypothesized that individuals would be unaware that the parasocial relationships formed by engaging with Trump on Twitter were affecting their views of him. Across an experiment and two correlational studies, we found support for our hypotheses. Above and beyond other types of political media exposure, Twitter had a unique influence on individuals' attitudes toward Trump. Thus, this collection of studies highlights the power of parasocial relationships as a mechanism to explain how seemingly innocuous exposure to public interest figures can lead to attitude shifts. Importantly, this parasocial relationship with the president was developed unconsciously and unintentionally and could have consequences on downstream behaviors and attitudes.

This research has very broad implications; Twitter is one of the most popular social media sites in the world, and it is being used like never before by one of the most powerful leaders in the world. This research is consistent with other recent work suggesting attitude-polarization effects of Twitter usage (e.g., Bail et al., 2018). It is also consistent with research demonstrating the important role parasocial bonds play in political attitudes (e.g., Gabriel et al., 2017). Although past work has demonstrated that individuals seek out parasocial relationships through Twitter (e.g., Iannone et al., 2018), this work is, to the best of our knowledge, the first work showing the *implications* of those parasocial bonds formed through Twitter. This is important because Twitter provides such a potent vehicle for the formation of parasocial bonds—it provides access to the thoughts and musings of a celebrity in real time along with the opportunity to react in ways that the celebrity is likely to see him- or herself. On the other hand, there may be various ways to use Twitter, and the current work limited itself to the way it is currently being used by the POTUS. Future work will be necessary to examine if other kinds of Twitter use by politicians have different effects.

Although we did not directly measure mental simulation, the current work is highly consistent with a model that views mental simulation as playing a key role in leading to parasocial bonds. Specifically, reading Trump's tweets may very well lead to an increased sense of empathy toward him, which would lead to an increased parasocial bond. Trump frequently not only shares information about his life but also strongly expresses his feelings about the events that surround him. This makes his Twitter feed a ripe avenue for increased empathy. In addition, the sheer volume of tweets produced by Trump increases the likelihood of perspective taking. Reading his tweets allows people to see his perspective directly and encourages them to see the world his way. These mental simulation processes likely lead Trump's Twitter usage to be an especially ripe area for the formation of social bonds. Of course, individuals who see Trump's views as very different from their own are likely to instead separate themselves from his tweets and perspectives and will thus be unlikely to take his perspective and empathize. Further research would be necessary to determine the exact role of mental simulation in the formation of parasocial relationships with Trump.

The current research has some limitations. One potential limitation of these studies is the slightly skewed nature of our samples. In Studies 1, 2, and 3, the samples titled left politically, thus not demonstrating a truly normal distribution of political identification. This allowed for a more conservative test of the hypothesis that people with preexisting political attitudes that were similar to Trump's political ideology would like him more when they were exposed to his tweets. In fact, the people we coded as having political attitudes that were highly similar to Trump's political attitudes (1 *SD* above the mean, which was more left-leaning) were only slightly similar in political ideology to

Trump (in contrast with an unskewed sample, in which the highly identified individuals would be 1 *SD* above a more neutral mean). This suggests that Trump's tweets may have a positive effect on a broader swath of the population than our studies might at first glance seem to suggest. Rather than only affecting the attitudes of those who were extremely similar to Trump in their political ideology, we found an effect even on individuals who identified only somewhat with his political ideology. Future work, then, may find an even larger effect on individuals who identify more strongly with Trump's political base. Notably, we do not anticipate the results of this study to be isolated to Trump or to politics; due to what is known about the strength and impact of parasocial relationships, we would expect the results of this work to be generalizable to contexts beyond this specific political candidate as well as beyond politics. Future work on parasocial relationships is necessary to confirm the generalizability of the current results.

The slightly skewed nature of the data should have provided more power to find the attitude polarization effects for those with negative preexisting attitudes about Trump. However, although we did find that participants with preexisting political attitudes that were not similar to Trump's political ideology did like him less after exposure to his tweets, those effects were smaller than the booster effects shown for those who initially liked Trump. There are a number of possible reasons for this. The first could be floor effects. On a 1–5 scale, participants with preexisting political attitudes not similar to Trump's consistently reported feelings well below scores of 2. Thus, there was less room for downward movement from these individuals. Second, participants who already had similar political attitudes to Trump liked him more after exposure to Trump due, in part, to the parasocial bond they formed with him. Thus, a mechanism existed to increase attitudes toward Trump that was not available for decreasing attitudes toward Trump. Finally, previous research suggests that Republicans are more likely to show attitude-polarization effects due to Twitter than Democrats (Bail et al., 2018). Future work would be necessary to replicate the smaller effects and determine the precise reason for them.

Conclusion

The use of social media by political figures is likely only beginning to grow in popularity. This work represents an important step in understanding the psychological processes and attitudinal consequences of Twitter use by politicians. Importantly, it seems that the ways in which we form social bonds may occur beyond our level of awareness. It seems to be the case that some of our methods of fulfilling social needs are disguised as innocuous, mundane daily behaviors rather than as strategic actions for strengthening our symbolic social bonds. This once again demonstrates the ability of the self to adapt to fulfill social needs in a variety of subtle yet successful ways.

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