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ORIGINAL ARTICLE

Does the Medium *still* Matter? The Influence of Gender and Political Connectedness on Contacting U.S. Public Officials Online and Offline

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Abstract This study employs a secondary analysis of U.S. nationally representative data from the Pew Internet 2008 civic engagement survey (N=2251) to examine the degree to which contacting public officials both online and offline is explained by the variables of gender and political connectedness. We find that while women are somewhat less likely to contact public officials through direct means, such as emailing or writing a letter, they are more likely to sign petitions, offline and especially online. Gender gaps in direct forms of contact are smaller in the online context than the offline context. We additionally find that that gender moderates the relationship between political connectedness developed via social networking sites and contacting public officials, such that women gain even further advantage in signing online petitions, but also gain further disadvantage in writing a letter/calling public officials and signing offline petitions. Finally, we find that political connectedness, achieved via social networking sites and offline contexts, is related to contacting public officials through both online and traditional means, suggesting a blurring of offline and online worlds.

Keywords Gender · Contacting public officials · Internet · Online · Political connectedness · Social networking sites

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Introduction

In the U.S., the rise of the Internet initially raised hopes that the costs of citizenship would be reduced such that women and other marginalized groups might have greater opportunities for learning and political participation (Browning 1996; Rheingold 1991). "Cyberspace" was thought to be a new frontier where anonymity shaped the contours of political communication, enabling "people to explore new relationships and even new identities" (Etzioni and Etzioni 1997, p. 295). Yet in contrast with these expectations, most early empirical research suggests that Internet use widened gendered political participation gaps (e.g., Bimber 1999; Katz and Rice 2002; Kennedy et al. 2003). Somewhat surprisingly, conclusions from these early studies essentially remain the state of the art. In spite of a dramatically altered contemporary media environment, more recent research has failed to thoroughly examine the lifespan of early empirical findings. We therefore employ U.S. nationally representative data from the Pew Internet 2008 Civic Engagement Survey to evaluate the persistence of online gender gaps in the realm of one particular form of political participation, citizens' contacting of public officials. Unless otherwise noted, we cite almost exclusively U.S. studies in our literature review and discussion sections because we believe they

are most readily applicable to predictions and conclusions made about our U.S. sample.

Of particular interest to us is Bimber's (1999) early investigation into when the medium of political communication mattered, and for whom it mattered. He found a notable, though relatively small online gender gap—gender (male) predicted contacting public officials via email, but was unrelated to contacting public officials by traditional means (Bimber 1999). However, he also found a modestly reduced gap for those people who reported low levels of traditional forms of political connectedness (measured by Bimber as a combination of mobilization influences and political involvement, such as attending campaign meetings) — political connectedness was less predictive of contacting public officials online than it was through traditional means. Thus, he concluded that when compared with traditional means, women found the Internet a *less* attractive tool for contacting public officials, while the less traditionally well connected found it a *more* attractive tool. For these groups, the medium of political communication mattered, at least by a little.

Of course, much has changed since Bimber's (1999) study. The structure of the Internet itself has changed dramatically in terms of speed, interactivity, amount of user participation in content creation, and ease of use (Horrigan and Rainie 2002; Kushin and Yamamoto 2010). Alterations to the structural aspects of the Internet may reduce gender gaps related to political participation as well as establish new forums for fostering political connectedness, such as social networking sites (hereafter referred to as SNSs), which may be seminal toward incentivizing online forms of contacting public officials (Hargittai 2008; Jones et al. 2009). Also, in terms of physical access in the U.S., the gender digital divide has essentially disappeared (Pew Internet 2010), which may mitigate the extent to which women view the Internet as a male-dominated space, at least relative to offline contexts.

In light of these changes, we address three central questions in the current study: First, in the contemporary U.S. context, does Internet use exacerbate, mitigate, or simply reinforce traditional gender gaps in contacting public officials (i.e., signing petitions online or offline, emailing, or writing a postal letter)? Second, do new forms of political connectedness developed via SNSs (i.e., becoming a "friend" of a politician, joining a political group, or posting a news article for "friends") translate into the actual contacting of public officials? Finally, does political connectedness developed either through traditional means or SNSs interact with gender to promote increases or decreases in contacting public officials?

We theoretically investigate these questions before turning to our hypotheses, which we test with a combination of chi-square analysis and logistic regression. The chi-square analyses are used to examine the relationships between our key predictive variables (i.e., gender and online/offline political connectedness) and our criterion variables (i.e., signing petitions, online and offline, emailing public officials, and writing a postal letter to a public official) irrespective of controls. We then use logistic regressions to assess the impact of our predictor variables and interaction terms on our criterion variables while keeping demographic variables (age, income, race, and education) related to socio-economic status (SES) constant.

Contacting Public Officials: The Role of Gender and Socio-Economic Status

When Milbrath (1965) released his widely cited hierarchy of U.S. political participation, contacting a public official appeared low on the list, just ahead of wearing a campaign button. However, Verba and associates (Verba and Nie 1972; Verba et al. 1995) put much more weight on the importance of contacting public officials, noting that this is one of the most direct ways citizens can communicate where they stand on issues and what actions officials should take in order to meet their constituents' needs. Further, when individuals are mobilized to be part of a large contingent contacting the government, they can exert more pressure on the public officials to take desired actions.

Models of political participation in the U.S. typically assume that it is driven by individuals' resources (the time, money and skills to participate), civic attitudes, as well as having more opportunities through formal institutional mobilization (e.g. parties and campaigns) or informal social mobilization (e.g. political discussion) to use their resources to engage in political behavior (Leighley 1995; Rosenstone and Hansen 1993; Verba and Nie 1972). For instance, contacting public officials requires knowledge of who to write or call and how to do it, as well as strong communication skills to effectively draft a convincing letter or e-mail. As such, the skill sets needed to contact public officials are higher than several other forms of political participation such as voting or going to a campaign speech or rally (Bimber 1999; Uslaner 2001). Because of this, contacting public officials has been linked to several socio-demographic variables related to SES, including education, income, and age (Rosenstone and Hansen 1993; Uslaner 2001; Verba et al. 1995) and most relevant to the current study, gender. Schlozman et al. (1994), for example, found a statistically significant 8-point discrepancy between men and women in frequency of contacting public officials, contrasted with a non-significant, 3-point discrepancy in voting. Rosenstone and Hansen (1993) further found that gender accounts for about 4 % of the probability that citizens will send a letter to Congress.

SES is deeply bound with gender differences in political participation. Women still earn substantially less money than men, with the median income in 2008 (the time the Pew survey was administered) for men at $45,161 and for women at $35,104 providing a less solid financial basis from which to engage in political activities (U.S. Census 2009). Indeed, in their study of driving forces behind gender gaps in participation, Schlozman et al. (1994) report that income inequalities are especially central and that the "[r]edistribution of resources would diminish considerably the gap in participation" (p. 985). Yet while some gender gaps in political participation may be explained by socio-economic status, gender socialization may be an additional explanatory variable.

There are several ways that socialization might affect women's perceptions about politics. For one, political conflict may be especially disagreeable to women socialized by traditional feminine gender norms to be responsible for the harmony and maintenance of social relationships (Belenky et al. 1986). Research demonstrates that women are relatively averse to the conflict-oriented style of most political media. They have been found to have stronger reactions to attack ads by political candidates and a stronger tendency to blame the candidates running the ad, rather than the candidate that the ad was attacking (Kern and Just 1997). Personality strength, which involves a sense of confidence in leadership roles, an aptitude for influencing others' opinions, and a believed ability to shape social and political outcomes may be an additional explanatory variable (Scheufele and Shah 2000). Scheufele and Shah (2000) demonstrated that women in their study were significantly lower in personality strength and thus less interested in politics as a whole. Due to an aversion to conflict, less confidence in their own political personalities, and perhaps an absorption of the traditional notion that the public sphere is somehow the domain of men (see Fraser 1993), women may be less likely to engage in direct forms of contacting public officials, such as letter writing, which may seem too aggressive or confrontational.

Yet there is a good deal of evidence to suggest that women are somewhat more likely to engage in indirect or private forms of activism—forms of engagement that might be considered more stereotypically feminine (Bernstein 2005). Indeed, women are historically overrepresented in less public or vocal forms of political involvement (i.e. voting only), as demonstrated by Coffé and Bolzendahl (2010) in their study of 18 Western democracies including the United States. Women are also underrepresented in political activities such as community organization, campaign activism, displaying a campaign button or sticker, contributing money to a political party (Andersen 1975; Verba and Nie 1972), as well as contacting a public official directly (Schlozman et al. 1994). These findings suggest that when women participate, they tend to participate in "gendered" and thus indirect ways (Stolle et al. 2005; Lister 2003; Risman 1999).

Internet and Contacting Public Officials: The Mitigation, Reinforcement, and Exacerbation Theses

The Internet offers a *relatively* new means with which to communicate with public officials—one that could potentially reinforce, exacerbate, or mitigate existing divides in U. S. political participation. During the early days of the Internet, online optimists offered what we will refer to as the *mitigation thesis*—Internet use would level the political playing field by allowing citizens to compete with lobbyists, large corporations and other special interests and by easing the costs involved with influencing policymakers because citizens could e-mail their views directly (e.g. Etzioni and Etzioni 1997; Jones 1995; Rheingold 1993).

Much of the reasoning for expecting the Internet to lead to the mitigation of participation inequalities is grounded in the notion that human beings are inherently rational (e.g., Downs 1957). A rational choice involves a form of cost benefit analysis, which may be applied to decisions to engage in political participation. If the potential costs of participation (e.g., time, money, mental exertion) for certain individuals outweigh its potential benefits (e.g., uncertainty reduction), these individuals are unlikely to seek information. In an opposite fashion, if technological developments, such as the Internet, reduce the costs of participation, individuals with access to the Internet will be more likely to engage in such activities. In taking any action such as contacting public officials, people are likely to balance the potential benefits of contacting public officials with the potential costs in terms of time and money. While it is the politically interested and engaged who are more likely to contact public officials or engage in other political activities, the Internet may so substantially reduce the costs involved in political communication that traditionally less engaged citizens enter the political arena. Email messages, for example, can be composed in much less time and with much less effort than preparing and mailing a letter. Sometimes people need not even compose an email, but may merely agree to have an interest group send a pre-written one on their behalf or people may sign petitions online with ease.

Skeptics argue, however, that human beings are not always rational and online means of contacting officials will be largely used by those who are already politically interested and motivated rather than transform the politically apathetic into a group that is primed to be mobilized (Bimber 2003; Schneider 1999). A psychological model of political participation, suggests a somewhat more complex array of factors involved in the adoption of new media for political purposes (Bimber 2003). First, a psychological

model suggests that as the cost of political participation falls, the already politically active (who tend to be higher in SES and disproportionately male) will become more active and the less politically active will remain relatively so (Bimber 2003). That is, the less politically active may improve, but not at as fast a rate as the politically active (Donohue et al. 1975). The psychological basis of this proposition draws on schema theory and related research, demonstrating that individuals with more complex cognitive schema related to public affairs are better able to process and incorporate new information than individuals with less complex cognitive schema (Chaffee and Schleuder 1986; McLeod and McDonald 1985). Thus, as it relates to gender, there are at least two possible outcomes associated with a psychological model of participation. The first outcome we refer to as the *reinforcement thesis:* Because women in the U.S. have been historically less politically engaged, the Internet will reinforce or mirror traditional gender gaps in participation—women will be no more or no less likely to participate because of the advent of the Internet. The second plausible outcome we refer to as the *exacerbation thesis*, which takes things a bit further by adding the additional hurdle of male-dominated technology (e.g., Coyle 1996; Green et al. 1993): Because women are averse to Internet-related technology, the Internet will widen traditional gaps in political participation. The exacerbation thesis makes sense when considering early survey research on Internet use, which found that women reported higher levels of disorientation and disenchantment with the Internet and were less likely to "browse" (Ford and Miller 1996).

Early findings in the U.S. suggested the exacerbation thesis to be most true. Not only was the Internet not helping, it was hurting (e.g., Bimber 1999; Katz and Rice 2002; Kennedy et al. 2003). Bimber's study (1999) of whether the method of communication (online or traditional means) influenced the frequency of whether people contact public officials showed that the Internet has minor effects in increasing public contact, with the effects higher among those who were already politically active. Yet women, even after controlling for SES and experience online, were less likely than men to contact officials via email but no less likely to contact officials through traditional means. This seemed to suggest that otherwise politically active women had a problem with online forms of contacting officials, perhaps because of gender norms associated with the technology.

But as stated at the start of our paper, much has changed since early studies of the Internet and contacting public officials. Bimber (1999) himself indicated that the Internet was in a transitory stage in the late 1990s with less than half of population online and the demographics of the Internet skewing toward those who typically are among the elite: White, wealthy well-educated males. As the Internet population has grown, online political behavior has become more mainstream (Pew Internet 2010), which should limit the influence of demographic variables like age and gender on contacting public officials through online means, *at least relative to offline means.* Indeed, the longer the Internet has been in existence, the more people report being more experienced users, and experience has been linked to political participation (Hargittai and Hsieh 2010; Vitak et al. 2010). The Internet itself has also changed. In early Internet studies people had to rely on clunky dial-up services. With faster broadband services available, the time it takes to contact a public official has decreased, further lowering the costs associated with this activity (Horrigan and Rainie 2002). A decade ago, email may indeed have been a more elite form of communication than postal mail. Today, however, the situation seems to be reversed.

Importantly, the gender digital divide in the U.S. has in many respects closed, though some gaps remain. In terms of physical access in the U.S., the gender digital divide has essentially disappeared with 79 % of both men and women going online (Pew Internet 2010). Whether or not ease of participation online is bringing new women into the public sphere, all else being equal (i.e., holding SES constant) it may no longer be an unattractive space for women, which would suggest greater engagement with online politics by women, similar at least to their level of offline engagement.

Connectedness and Contacting Public Officials

The current technological environment also raises questions about the ways in which women feel connected to the political process. Bimber (1999) defined political connectedness both in terms of feeling connected to the political process and engaging in political activities that he perceived as connecting individuals to political parties and candidates such as attending political meetings, rallies, speeches or dinners; wearing a campaign button or displaying a sign or sticker; working for a candidate or party during a campaign and donating money. His measure of connectedness also included the number of mobilizing social, professional or workplace organizations that have attempted to mobilize an individual. Bimber found that political connectedness, whether measured by the number of connective political activities individuals engage in or the number of organizations that have contacted individuals to try to mobilize them into political action, predicted communicating with public officials, with results stronger for traditional means of communication rather than online means. This suggested that political connectedness was a less important factor in online political participation. In this regard then (unlike the case of gender), the Internet was a less elite medium of communication, not confined to traditionally well-connected citizens. These findings gave some support to the mitigation thesis;

Internet use seemed to ease the gap between the well connected and the less well connected.

Unexamined in research, however, is the influence of political connectedness developed online and that political connectedness might interact with gender. An examination of the relevance of online connectedness to contacting public officials seems an important additional step given the emergence of social media, such as Facebook and Twitter, and the renewed interest in the community aspect of the Internet. Dimitrova and associates found that use of social media was more strongly related to political participation than either online news sites or candidate websites because of their ability to involve supporters, connect online users with political actors, and mobilize citizens to take action (Dimitrova et al. 2011). Kim and Geidner (2008) furthermore found a strong link between civic participation and contacting public officials through SNSs. Studies, then, have found a link between SNS use and political and civic participation in general, particularly when measured in terms of political uses (Utz 2009; Valenzuela, et al. 2009; Vitak et al. 2010; Zhang et al. 2010) (Utz's study was conducted with a Dutch sample), but have not looked at the specific role of SNSs is developing forms of connectedness, which seems likely to occur through acts such as joining SNS political groups, posting news articles online, or "friending" a candidate. Such acts seem likely to foster political connectedness in a similar way that traditional acts of wearing a campaign button or displaying a sign or sticker might. Indeed, the Internet has by now been firmly established as an important place for the creation and maintenance of social capital and political connectedness in the contemporary media environment (e.g., Ellison et al. 2007, 2011). Interestingly, research shows that women outnumber men in SNSs because they are attracted to its conversational, interpersonal nature (Hargittai 2008; Jones et al. 2009). To the extent that SNSs provide meaningful opportunities for political connection, women may therefore be in a position to benefit.

Hypotheses

The findings from Bimber's (1999) study help to comparatively illustrate theoretical issues revolving around who finds the Internet an "easier" and thus more "rational" medium of political communication compared to traditional means and who, due to various psychological and structural level impediments, does not—controlling for demographic variables related to SES, the less well connected presumably found it a more rational choice, while women were ostensibly limited by a stable set of gendered psychological aversions to the structural features of the Internet (and indeed technology more generally) rendering them less likely to see online forms of communication with public officials a "rational choice" (Bimber 1999, 2000). The question is whether or not this is still the case.

With regard to this central question, we have examined three main research problems. The first revolves around the extent to which the Internet mitigates, reinforces, or exacerbates gender divides in contacting public officials. Rational choice theory (Downs 1957) suggests that to the extent that online technologies make it easier to participate, women will be more likely to do so. It is plausible according to this perspective that changes to the structural features of the Internet have so dramatically eased the costs associated with participation that women are increasingly engaging in types of political participation that have traditionally been the domain of men, in particular, contacting representatives directly. Emailing ones representatives, especially when that email is prewritten by an interest group and requires only pointing and clicking. If this is the case, gender gaps should be closed, or substantially reduced relative to the offline context. The psychological perspective, however, which has received more robust support in Internet-related research, suggests that to the extent gender norms persist, Internet use will either reinforce or exacerbate gender gaps in political participation.

From our review of the literature, we can at least surmise that women are more likely than men to contact public officials indirectly, both online and offline. One common type of indirect contact involves the signing of petitions.

> *H_1: Both a) offline and b) online, gender (female) is positively related to signing petitions.*

Men, on the other hand, should be more likely than women to contact their public representatives directly, both online and offline. Direct forms of contact, as we conceptualize them here, involve activities that speak directly, sometimes in the participant's own words, to public officials. These activities stand in contrast to the comparably indirect act of signing online petitions, which involves signing in agreement to a point of view or political request not first articulated by the participant. Direct forms of contact may include writing or emailing public officials.

> *H_2: Gender (female) is inversely related to contacting public officials directly,* via *a) sending a letter to public officials and b) emailing public officials.*

Somewhat less apparent, as we have seen, is the extent to which whatever gaps exist between men and women in terms of contacting public officials and the media will be equaled across online and offline contexts. Much hinges on

whether, controlling for SES, women have a particular aversion to participation online relative to offline. If women have particular concerns associated with the technology, then we should see wider gaps in participation online than offline. However, if women have become more comfortable with the technology, then we should see similar gaps online as we do offline or perhaps even reduced ones to the extent that the Internet makes it easier for women to participate politically. Which of these possibilities has the most traction is presently unclear. We therefore ask the following research question:

> *RQ_1: Will online gender gaps in contacting public officials be larger, equal to, or smaller than offline gender gaps in contacting government officials?*

The second research problem we have examined revolves around the extent to which online and offline political connectedness plays a role in contacting public officials online—previous research has not examined the impact of SNS connectedness. Here, rational choice theory and the mitigation thesis might suggest that the politically less well connected ought to find the Internet an easier place to participate politically and will therefore do so with greater frequency. The psychological model, on the other hand, might suggest that new forms of connectedness should emerge online that would reinforce or mirror the offline participation gap between the less well connected and the connected. We submit that the reinforcement thesis seems substantially more plausible in this case, especially given the increasing centrality of SNSs in political communication.

> *H_3: Political connectedness developed* via *SNSs is positively related to contacting public officials offline and online,* via *(a) sending a postal letter to public officials (b) signing pen and paper petitions, (c) emailing public officials, and (d) signing online petitions.*

However, there should be a stronger relationship between SNS connectedness and online forms of contact relative to offline forms of contact due to the increased traversability provided by the Internet (Brundidge 2010).

> *H_4: Political connectedness developed* via *SNSs is more strongly related to a) emailing public officials than sending a postal letter to public officials and b) signing online petitions than signing paper petitions.*

The third main research problem involves the ways in which women become connected to politics, online and offline, and how that might impact the extent to which they contact public officials. Particularly intriguing is the possibility that SNSs are becoming an important means of developing connectedness for women, who are more active participants on these sites than men (Hargittai 2008; Jones et al. 2009). At the same time, SNSs have become a common forum in which links to online petitions get circulated. People on Facebook, for example, post links to petitions on their page providing an easy mechanism for signing a petition.

> *H_5: Gender moderates the relationship between SNS connectedness and signing online petitions.*

Less clear is whether or not gender might similarly moderate the relationship between offline connectedness and offline forms of contacting public officials, or the relationship between SNS connectedness and forms of contacting public officials not explored by the previous hypothesis (i.e. emailing public officials). It is possible, for example, that gender could moderate the relationship between offline connectedness and signing pen and paper petitions. However, this seems somewhat less likely than in case of SNS connectedness and signing online petitions—offline connectedness provides no direct or obvious mechanism for signing paper petitions and women are traditionally disadvantaged when it comes to offline forms of connectedness. Nevertheless it seems worth exploring possible interactions between gender and political connectedness on contacting public officials not examined by the previous hypothesis. We therefore propose a second research question:

> *RQ_2: Does gender moderate the relationship between political connectedness (either SNS or offline) and contacting public officials offline (*via *signing paper petitions or sending a letter) or online (emailing)?*

Method

Sample

This study is based on a secondary analysis of a Pew Internet dataset created from a U.S. nationally representative survey of adults over the age of 18. The dataset was originally used for the Pew *Internet and Civic Engagement* study. Princeton Survey Research Associates International conducted the survey between August 12 and August 31, 2008. It employed a random digit dial (RDD) sample of telephone numbers selected from exchanges in the continental United States. The researchers contacted 9,434 people and completed 2,251 surveys (N=2251), a 23.9 % acceptance rate.

The data were weighted for response bias across gender, age, and education. The demographic weighting parameters

were based on a Pew analysis of the most recently available Census Bureau's March 2007 Annual Social and Economic Supplement. The analysis yielded population parameters for the demographic characteristics of adults aged 18 or older, living in continental US households. These parameters were compared with the sample characteristics to construct sample weights (Smith et al. 2009).

There were some notable socio-demographic differences among men and women and some relatively minor discrepancies between the Pew sample and the U.S. population. Both chi-square analyses (see Table 1) and an ANOVA (see Table 2) reveal small but significant gender differences in both age and income, with women being slightly younger and earning somewhat less income than men. The income inequality as expressed in *mean* levels (see Table 2) in the Pew sample is generally consistent with Census estimates, though the Pew sample is generally wealthier than Census *median* estimates. The median income in the Pew sample for both men and women is $40,000-$50,000, which is relatively representative of men with 2008 Census estimates for a median income of $45,161, but not representative for women, with a median income of $35,104 (U.S. Census 2009) (The 2009 American Community Briefs included 2008 estimates). The respondents in the Pew sample are also somewhat older than is the U.S. population. In the Pew sample, the median age for men and women is 45–54, while the median ages are estimated at 38.8 and 38.5 for men and women respectively (Census 2010). The Pew sample also shows women being slightly younger than men, whereas in Census data women are slightly older.

Variables

Socio-Demographic Variables (Controls)

Due to their centrality in contacting public officials, and in political participation more generally, socio-demographic variables related to SES, were included in analyses as controls. It is essential to disaggregate SES, however. Early studies that examined SES produced contradictory findings (e.g., Coulter 1992; Verba and Nie 1972). Age, for example, is not typically included in a measure of SES, yet is a central to contacting public officials—research has shown that communicating with government is largely a function of education and of age (Rosenstone and Hansen 1993; Verba et al. 1995). We therefore control for demographic variables individually, rather than aggregating them into an overall measure of SES.

The *age* of respondents was assessed with an item that asked respondents to place themselves in one of six age categories (median=45–54). *Education* was measured by asking respondents to place themselves in one of four education categories (less than high school, high school graduate, some college, and college graduate (median=some college). *Income* was evaluated by asking respondents to report their total household income for the previous year (2007) by selecting from nine categories ranging from less than $10,000 to $150,000 or more (median=$40,000 to under $50,000). However, for ease of analysis, we treated age, education, and income into continuous variables. Age was therefore a six-point index ($M=3.6$, $SD=1.6$), education was a four-point index ($M=2.7$, $SD=1$), and income was nine-point index ($M=5.1$, $SD=2.2$). *Race* was dummy coded with non-White equal to 0 and White equal to 1 (78.8 %) ($M=.79$, $SD=.41$).

Gender (Predictor Variable)

For most of our hypotheses, gender is the key predictor variable. For gender (48.8 % female, 51.2 % male), females were dummy coded 1 and males coded 0 ($M=.51$, $SD=.50$).

Political Connectedness (Predictor Variables)

We are also interested in political connectedness as a predictor of contacting public officials. According to the Bimber (1999) study, political connectedness as a correlate of contacting behavior is a variable that can be measured, in part, by assessing mobilization influences: association with social, professional, or workplace organizations. One of his measures of political connectedness therefore examined the degree of involvement by the respondent in these types of activities. We use a similar measure to capture what we label as *offline connectedness* but also employ an additional measure of *SNS connectedness*.

Offline political connectedness was assessed with an index that included five yes/no items (which we dummy coded, 0 no, 1 yes) that asked if respondents had attended a political rally ($M=.12$, $SD=.33$), a political meeting on local, town or school affairs meeting ($M=.24$, $SD=.43$), worked or volunteered for a political e public policy or public, not including a political party ($M=.15$, $SD=.36$), or worked with fellow citizens to solve a problem in their community ($M=.28$, $SD=.45$). The scores of the five items were summed to yield a single index (range=0–5, $M=.88$, $SD=1.25$, $\alpha=.69$, skewness=1.5). Both the individual items and the index are used in our analyses.

SNS political connectedness was assessed through the use of a three-item index that asked respondents whether or not they had ever participated in political activities via social networking sites. The index included the following items: whether or not they had started or joined a

political group or group supporting a cause on a social networking site (*M*=.03, *SD*=*.18)*, signed up as a "friend" of any candidates on a social networking site (*M*=.03, *SD*=*.17)*, or posted political news for friends or others to read on a social networking site (*M*=.03, *SD*=*.16)*. Each of the three items was measured on a yes or no binary scale and the scores of the three items were summed to create a single index (range=0–3, *M*=.09, *SD*=.42, α=.75, skewness 5.2). Both the individual items and the index are used in our analyses.

Contacting Public Officials Online and Offline (Criterion variables)

Following Bimber's (1999) general approach, we assessed whether or not respondents contacted public officials, both online and offline. The offline related items asked whether or not respondents had ever (yes or no, dummy coded): contacted a national, state or local public official in person, by phone or by letter about an issue that is important to you; (*M*=.24, *SD*=*.43)* or signed a paper petition (*M*=.25, *SD*=*.43)*. The online related items asked respondents if they had ever (also yes/no, dummy coded): sent an email to a national, state or local public official about an issue that is important to you (*M*=.18, *SD*=*.38)* or signed a petition online (*M*=.14, *SD*=*.35)*.

Missing Values

The Pew survey included a filter question, such that only Internet users (*N*=1,655) answered questions related to online behavior. Those missing values on Internet related items associated with this filter, were therefore recoded as "0" or "never" since we knew that as non-Internet users they could not engage in online activities (i.e., *SNS political connectedness, online contact of public officials)*. Missing values for income were replaced with the mean. All other missing values on all variables were deleted listwise.

Table 1 Chi-square of socio-demographic characteristics of Women and Men

Demographics	Women		Men				
	N	%	*N*	%	Total (%)	χ^2	*df*
Age	3134	51.1	3002	48.9	6136 (100)	41.38*	5
18–24	267	8.5	383	12.8	650 (10.6)		
25–34	535	17.1	518	17.3	1053 (17.2)		
35–44	601	19.2	590	19.7	1191 (19.4)		
45–54	642	20.5	606	20.2	1248 (20.3)		
55–64	486	15.5	450	15.0	936 (15.3)		
65+	603	19.2	455	15.2	1058 (17.2)		
Race	3124	51.3	2967	48.7	6091 (100)	.000	1
Non-White	663	21.2	630	21.2	1293 (21.2)		
White	2461	78.8	2337	78.8	4798 (78.8)		
Education	3189	51.3	3033	48.7	6222 (100)	7.54	3
Less than high school	397	12.4	422	13.9	819 (13.2)		
High school graduate	1149	36.0	1105	36.4	2254 (36.2)		
Some college	772	24.2	655	21.6	1427 (22.9)		
College graduate	871	27.3	851	28.1	1722 (27.7)		
Income	3211	51.2	3061	48.8	6272 (100)	142.05*	9
Less than $10,000	279	8.7	193	6.3	472 (7.5)		
$10,000 to under $20,000	323	10.1	204	6.7	527 (8.4)		
$20,000 to under $30,000	325	10.1	253	8.3	578 (9.2)		
$30,000 to under $40,000	280	8.7	245	8.0	525 (8.4)		
$40,000 to under $50,000	231	7.2	232	7.6	463 (7.4)		
$50,000 to under $75,000	690	21.5	521	17	1211 (19.3)		
$75,000 to under $100,000	407	12.7	463	15.1	870 (13.9)		
$100,000 to under $150,000	276	8.6	474	15.5	750 (12)		
$150,000 or more	229	7.1	310	10.1	539 (8.6)		

N is the weighted number of cases. * p<.001. The cell counts have been rounded

Table 2 Mean difference in the demographic characteristics across gender

	Women (n=3,067) M (SE)	Men (n=2,937) M (SE)	F	df1	df2	Partial η^2	Observed Power
Race	.78(.01)	.78(.01)	.05	1	6002	.000	.05
Age	3.75(.03)	3.49(.03)	40.53*	1	6002	.01	1
Education	2.64(.02)	2.64(.02)	.003	1	6002	.000	.05
Income	4.80(.04)	5.31(.04)	83.77*	1	6002	.01	1

Data here were weighted to reflect the composition of the entire U.S. population. The data from Pew Internet and American life project is meant to be representative of all adults in the continental United States

* p<.001

Results

To test our hypotheses, we first use chi-square analyses, to test for gender differences irrespective of SES. We then use multiple logistic regressions to test for our hypothesized main effects and interaction effects, while holding demographic variables related to SES constant.

Hypotheses 1–2 are largely supported by both the chi-square and logistic regression analyses (see Tables 3, 4, and 5), with exception of hypothesis 2b, which is unsupported by logistic regression (See Table 3). As can be seen in Table 3, chi-square analysis demonstrates that women are significantly more likely than men to contact government officials by indirect means (a) signing a paper petition and (b) signing an online petition, while men are significantly more likely to contact government officials through direct means, including (a) in person, by phone or by letter and (b) email. Chi Square also gives us a preliminary answer to our first research question. While there are gender gaps in the chi-square analyses favoring men in both online and offline forms of contact, they are importantly slightly smaller for online forms of contact

Logistic regressions (see Tables 4 and 5) generally bear out the findings of chi-square analysis, but with important differences illuminated by the multivariate approach. For the offline context, logistic regression finds gender (female) is positively and strongly related to signing a paper petition, but inversely related to contacting public officials in person, by phone, or by letter —here the demographic controls and political connectedness controls do not seem to matter much, the gender gap in the chi-square analyses persists in the logistic regression (see Table 5). For the online context, however, logistic regression finds that gender is positively and strongly, even more strongly than paper petitions, related to contacting public officials by signing a petition online but *unlike* the offline equivalent of contacting public officials via postal letter and in contrast with hypothesis 2b, it is *unrelated* to contacting public officials via email (See Table 4). These results suggest that in both online and offline contexts women are most likely to contact public officials through indirect means (i.e., petitions). However, in answer to our first research question and in contrast with Bimber (1999), we find that relative to offline means, online means are substantially *more* conducive to participation

Table 3 Chi-square of gender and contacting government officials

Forms of contact	Women		Men		Total	χ^2	df
	N	%	N	%			
In person, phone, letter	712	46.5	818	53.5	1530	18.01*	1
Email	529	47.6	582	52.4	1111	7.12**	1
Paper petition	842	54.6	700	45.4	1542	9.40**	1
Online petition	536	58.8	376	41.2	912	24.66*	1

N is the weighted number of cases. Only the number of respondents who answered "yes" was reported in the total

* p<.001, ** p<.01

Table 4 Logistic regression of contacting government officials via online means

	Online petition B (SE)	Email
Gender (Female=1)	.53* (.08)	−.06 (.08)
Race (White=1)	.49* (.11)	.45*(.11)
Age	−.05 (.03)	.17* (.03)
Education	.47* (.05)	.53* (.05)
Income	.14* (.02)	.17* (.02)
Offline connectedness	.22* (.03)	.52* (.03)
SNS connectedness	.85* (.08)	.82* (.08)
SNS connectedness×Gender	.28** (.15)	
Nagelkirke (Psuedo) R^2	.19	.11
Log-likelihood	4353.49	4489.18
	N=2144	N=2144

* p<.001, ** p<.05

Table 5 Logistic regression of contacting government officials via offline means

	Paper petition B (SE)	In person, phone, letter
Gender (Female=1)	.33* (.07)	−.25* (.07)
Race (White=1)	.17** (.08)	.11 (.07)
Age	.02 (.02)	.24* (.02)
Education	.22* (.04)	.20* (.04)
Income	.02 (.02)	.04** (.02)
Offline connectedness	.51* (.03)	.55** (.03)
SNS connectedness	.55* (.08)	.09 (.08)
SNS connectedness×Gender	−.36** (.15)	−.57* (.15)
Nagelkirke (Psuedo) R^2	.19	.20
Log-likelihood	5870.76	5776.30
	N=2138	*N*=2135

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

among women by more strongly promoting the signing of petitions and more weakly limiting direct forms of contact (i.e., emailing representatives).

Moving on to hypotheses 3 and 4, which in turn stated that political connectedness developed via SNSs would be related to each form of contacting public officials offline and that the relationship between SNS political connectedness and each form of online contacting of public officials would be stronger than the relationship between SNS connectedness and each type of offline contacting of public officials, logistic regression analyses find only partial support. In the case of online contact, signing online petitions and emailing is strongly related to SNS political connectedness (See Table 4). In the case of offline contact, writing letters to public officials is unrelated to SNS connectedness but signing paper petitions is related to SNS connectedness (See Table 5). Offline connectedness is positively related to all forms of contacting government officials, but relatively weakly related to signing online petitions. These findings support Bimber's (1999) finding that offline political connectedness is not as central to online forms of contacting public officials as it is to offline forms. Yet we also find that SNS connectedness is central to many forms of contacting public officials, particularly signing petitions, both online and offline, and emailing ones representatives. What we see in these findings seems to be a blending of the offline and online worlds, such that connection in one leads to political participation in the other.

Turning now to hypothesis 5 and research question 2, we tested for interactions between political connectedness, both online and offline, and gender on online and

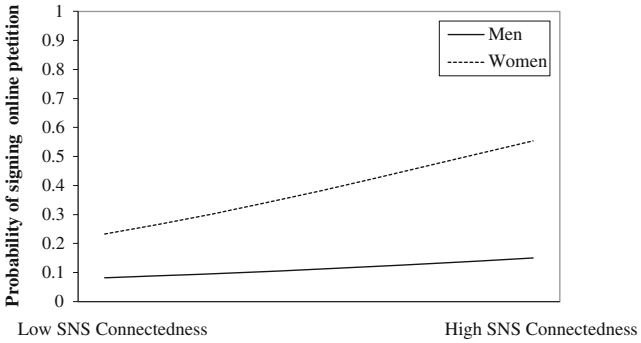

Fig. 1 Probability of signing and online petition

offline contacting of public officials. In sum, a total of eight interactions were tested in our logistic regression models (gender x SNS connectedness on email; gender x SNS connectedness on signing petitions; gender x SNS connectedness on connecting in person, by telephone, or mail; gender x SNS political connectedness on signing paper petitions; and gender x offline connectedness on all of the same criterion variables). All variables were centered prior to testing and each interaction term was tested separate from the others. Of these interaction terms, three were significant (See Tables 4, and 5; Figs.1, 2 and 3); the others were omitted from the final regression models.

The first significant interaction confirms hypothesis 5; gender moderates the relationship between SNS connectedness and signing online petitions (See Table 4 and Fig. 1). As is visually represented in Fig. 1, women become more likely to sign petitions relative to men when they are high in SNS connectedness. The second significant interaction is between SNS connectedness and gender on signing paper petitions (See Table 5 and Fig. 2). As visually represented in Fig. 2, this interaction appears to induce a leveling effect between men and women. Though women sign more paper petitions than men, SNS connectedness appears to reduce

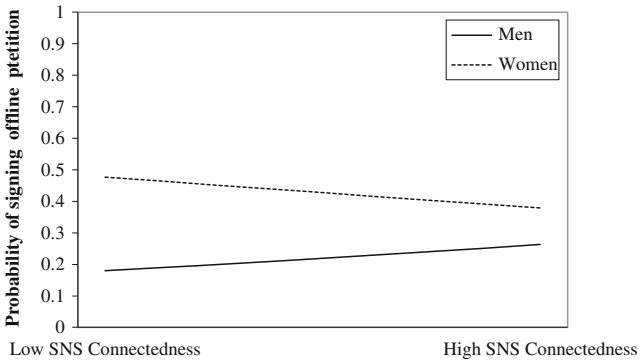

Fig. 2 Probability of signing an offline/pen and paper petition

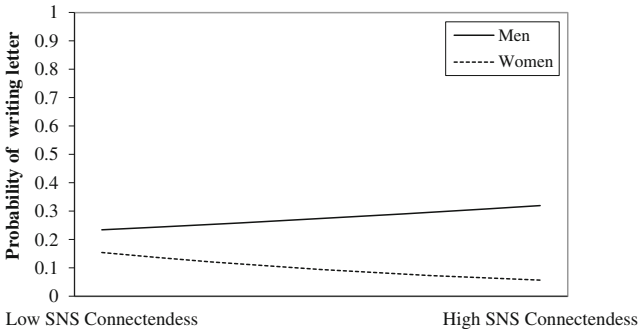

Fig. 3 Probability of writing public officials via postal letter, telephone, or in person

this gap. While SNS connectedness increases the odds men sign paper petitions, it reduces the odds for women. Nonetheless, it is important to note that women who are high in SNS connectedness are still slightly more likely to sign paper petitions than men who are high in SNS connectedness. Particularly striking is the third interaction between SNS connectedness and gender on writing a postal letter, calling, or contacting a public official in person (See Table 5). As can be seen in Fig. 3, SNS connectedness widens the already existing gap between men and women for this activity. Women high in SNS connectedness engage in writing a postal letter less than those low in SNS connectedness, whereas men do it even more.

Discussion

Does the medium *still* matter? Overall we find that the medium of political participation matters, but somewhat differently than it did earlier in the Internet era. Our findings comport most closely to the reinforcement and mitigation theses, somewhat straddling the two theoretical categories. However, we do find some evidence for the exacerbation thesis, *but not for the reasons that were initially proposed* (i.e., women have an aversion to the Internet), rather it seems women are shifting their attention away from offline forms of contact onto online forms of contact, which widens offline gender gaps, while narrowing online gender gaps.

In simultaneous support of both the reinforcement and mitigation theses, our findings suggest that the medium matters as a determinate of substantially increased signing of petitions among women online. Here, the Internet seems to have so *reinforced* women's propensity to engage in the signing of petitions, that they now do so more than ever relative to men thereby *mitigating* the online gender gap. While writing a letter is an arguably more effective way to communicate with public officials, signing a petition is not insignificant, and when done on a very frequent basis, may even have more overall impact than writing just one letter, for example. These results generally support existing literature, which finds that when compared to men, women participate in more indirect ways (e.g., Coffé and Bolzendahl 2010) (Coffé and Bolzendahl study was of 18 Western democracies, including the U.S.). It is not surprising then that women would reinforce this tendency online, rather than radically altering the ways is which they participate.

Importantly however, in support of the mitigation thesis, the weaker inverse relationships between gender (female) and direct forms of online contact relative to offline contact, and in the case of email, a non-significant relationship, suggests that women are actually more likely to use online forms of direct contact (such as email) than they are offline forms of contact (such as letter writing). These findings stand in stark contrast to the findings of Bimber (1999), who speculated that the Internet would be likely to persist as less attractive means of communication for women than "face to face" means. We found the opposite to be true, perhaps due to substantial changes in the structural features of the Internet that have made the online experience more gender inclusive.

When evaluating the extent to which political connectedness is related to online forms of contact, we find that the medium matters less than it did in the early days of the Internet. SNSs did not yet exist when Bimber (1999) did his study, so he was unable to take it into account. We find that SNSs are important as places of political connection, predicting online participation and though less strongly, offline participation. In this sense, the Internet does not free people up from the importance of political connection as the mitigation thesis might have it; instead the location of connectedness shifts and possibly blurs as we now more seamlessly shift from online to offline worlds. Overall these findings seem to most strongly support the reinforcement thesis; the importance of political connectedness is mirrored in the online environment, thus reinforcing its relationship between contacting of public officials and political connectedness.

As political connectedness relates to gender, we find an interesting set of interaction effects, one suggesting a reduction in *online* gender gaps due to SNS connectedness, while the other two suggest an exacerbation of *offline* gender gaps, also due to SNS connectedness. On the one hand, as we expected, women's use of SNSs for political connectedness substantially enhances the odds that they will sign an online petitions. This makes sense considering that people on SNSs tend to post links out

to online petitions, providing a direct mechanism for signing online petitions. More surprising are the interactions we find between gender and SNS connectedness in relationship to offline signing of petitions and writing a postal letter. SNS connectedness decreases the odds women will sign paper petitions and write a postal letter, while increasing the odds for men. One possible explanation for these findings is that SNSs, while enhancing the extent to which women sign online petitions, also serve to reinforce men's dominance in politics in offline domains. While men do not surpass women in signing offline petitions, men's use of SNSs does narrow one of the few areas of political participation in which women traditionally surpass men. SNS connectedness furthermore exacerbates the already existing gender gap on writing postal letters.

Thus, SNS connectedness seems to have complex implications for gender gaps, favoring women online, while favoring men offline. It is perhaps the case that women feel more comfortable participating online and the more connected they become to politics via SNS, the more they shift their political participation online and away from the traditional offline forms of contacting public officials.

Despite the importance of these findings, this study has some limitations. First, as with all cross sectional studies, we are limited to statements about correlation and cannot make causal inferences from the data. We are also somewhat limited by the way Pew Internet and American Life Project assessed the variables in question, often employing categorical as opposed to continuous measures, which would have been preferable. Finally, our conclusions are clearly limited to the U.S. population. Findings are likely to vary greatly by culture and region, depending on the level of discrimination against women, the diffusion of Internet access, civil society traditions, and statist restrictions on freedom of expression.

Limitations aside, this study productively extends and builds upon conclusions drawn from research on gender, political connectedness, and political participation and helps to put early gender and Internet related findings into their proper and perhaps outdated context. In some ways the situation for women in the U.S. appears to have improved since earlier Internet studies (Bimber 1999; Schlozman, et al. 1994), offering a productive avenue for the signing of petitions, and a less prohibitive arena to participate in more "direct" forms of contacting public officials, such as emailing, which could strengthen the extent to which women's political concerns are voiced. However, women may also be shifting away even further from offline traditional forms of contacting public officials, which may or may not be problematic for their representation, depending on how women's political participation continues to take shape.

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