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Partisan selective exposure, climate of opinion perceptions and political polarization

Yariv Tsfati, Adi Chotiner, University of Haifa

Natalie Jomini Stroud, University of Texas-Austin

Address correspondence to: Yariv Tsfati, Department of Communication, University of Haifa, 31905 ISRAEL, Fax: ++972-8249120, Email: ytsfati@com.haifa.ac.il

Abstract

Spiral of silence theory (Noelle Neumann, 1974) assumes that a consonant and monolithic stream of messages from mainstream media, that leaves little ability for audiences to selectively seek ideologically congruent news, affects people's perceptions of the distribution of opinion in society. While these assumptions may have been valid when Noelle Neumann developed her theory 40 years ago, the new media landscape, characterized by the proliferation of ideological media outlets (Bennett & Iyengar, 2008), makes them seem outdated. How does exposure to partisan media shape opinion climate perceptions? Do audiences of conservative-leaning media perceive a conservative opinion climate while audiences of liberal-leaning media perceive a more liberal distribution of opinion? And if so, what are the macro-level social consequences? We examine these questions on two data sets collected in extremely different contexts (Study 1 in the context of the 2005 Israeli disengagement from Gaza, $n = 519$; Study 2, in the context of the 2004 US presidential elections using the National Annenberg Election Survey, $n = 5,509$). In both studies, selective exposure to ideological media outlets was associated with opinion climate perceptions that were biased in the direction of the media outlets' ideologies. In Study 2, we also demonstrated that opinion climate perceptions were associated with more polarized political attitudes and that opinion climate perceptions mediated the effects of ideological selective exposure on attitude polarization.

Exposure to ideological news and perceived opinion climate: Testing the media effects component of spiral of silence theory in a fragmented media landscape

In a landmark article Bennett and Iyengar (2008) call on public opinion scholars to look back at classic theories of media effects and to examine whether each theory “needs to be adapted, and in some cases overthrown” (p. 713) in order to keep pace with the changes in the ways that audiences are making use of a post-broadcast media landscape. In this paper, we examine whether and how the development of partisan media outlets that present the news from the standpoint of either a politically liberal or conservative ideology has changed the media-effects component of spiral of silence theory. When formulating this theory, Noelle Neumann (1974) had assumed that a consonant and monolithic stream of messages from mainstream media would affect people’s perceptions of the distribution of opinion in society. The era of an almost-monopolistic media market has ended, claim Bennett and Iyengar, and one implication of this change is the fact that the mediated presentation of the opinion climate is no longer unequivocal. How does exposure to partisan media shape opinion climate perceptions? Do Fox News audiences perceive a conservative opinion climate while MSNBC audiences perceive a more liberal distribution of opinion? And if so, what are the macro-level social consequences? This paper attempts to answer these questions.

The spiral of silence and the fragmented media landscape

The emergence of spiral of silence research in the early 1970s (Noelle Neumann, 1974), alongside agenda setting and cultivation theories, has signified for many scholars a paradigmatic shift from theories of powerful audience back to theories of powerful media (McQuail, 1985). Interestingly, when reviewing this paradigmatic shift, McQuail (1985, p.104) mentioned the homogenization of media as a possible reason for the fact that

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conceptions of a dominant media had regained ground at that stage. The fact that the spiral of silence was part of this paradigmatic shift, combined with the uniqueness of linking interpersonal and mass communication at both micro and macro levels, are perhaps the reasons why “the spiral of silence has assumed an important place in the literature on communication processes and effects” (Salmon & Glynn, 1996, p. 177).

The media effects component of spiral of silence argues that that media regularly and strongly impact our perceptions regarding what other people are thinking. Noelle Neumann (1974, pp.50-51) has argued that “mass media are part of the system which the individual uses to gain information about the environment. For all questions outside his immediate personal sphere he is almost totally dependent on the mass media for the facts and for his evaluation of the climate of opinion.”¹ As Katz puts it, according to spiral of silence “mass media constitute the major source of reference for information about the distribution of opinion” (Katz, 1983, p. 89). The media’s ability to shape opinion climate perceptions is at the core of the theory’s spiraling process by which majorities may become minorities due to their distorted perception of the opinion climate and its effect on people’s willingness to engage in conversations.

Part of the reason for the media’s strong ability to shape opinion climate perceptions relates to Noelle Neumann’s (1973) concept of consonance. According to Scheufele (2008, p. 177) “consonance refers to the tendency of different media outlets to

¹ A similar media effect on climate of opinion perceptions was described by neighboring theories such as impersonal influence (Mutz, 1998), bandwagon effect research (Bartels, 1988), and pluralistic ignorance (O’Gorman & Garry 1976).

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portray controversial issues in a homogeneous manner”. Katz (1983, p.89) has argued that spiral of silence research assumes that “the media tend to speak in one voice. Almost monopolistically”. Being captive by a monopolistic and ubiquitous media environment makes audiences rely heavily on media as a source of information on social opinion (Salmon & Glynn, 1996, p. 167). The consonant presentation of the opinion climate in mainstream media strengthens media effects, according to spiral of silence theory “since it undermines the ability of audience members to selectively expose themselves only to media messages that are consistent with their own views” (Scheufele, 2008, p. 177).

The assumption of consonance was perhaps valid when Noelle Neumann and her students studied the spiral of silence in Germany in the 1970s and 1980s. For example, at that time, the two German broadcast television stations ARD and ZDF did not differ even in technical features of news coverage such as camera angles (Noelle Neumann, 1984, pp. 165-166). However, the new media landscape, characterized by the advent of current affairs websites that are targeted at political niches as well as the rise of ideologically-oriented television cable news networks (such as *Fox News*) and ideological political talk radio (Bennett & Iyengar, 2008), makes the assumption of consonance seem outdated. The more diverse ideological menu offered by media is being used by audiences, leading to what Bennett and Iyengar (2008, p. 724) described as “partisan biases in consumption”: In contrast to Noelle Neumann’s conceptualization of the audience as having little ability to selectively expose themselves to ideologically congruent news, current audiences regularly expose themselves to likeminded media outlets.

As Metzger (2009, p. 570) notes: “it would appear, then, that the spiral of silence in its original form may have little predictive power in the new media environment due to

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the increased diversity of content, audience control and selectivity”. But does this mean that the media lost their ability to shape opinion climate perceptions with the transformation to the new media landscape? Could it not be that explicitly ideological outlets such as Fox News and MSNBC also shape opinion climate perceptions?

Exposure to ideological news media and climate of opinion perceptions

The assertion that the media influence audience perceptions of public opinion was explained by Noelle Neumann in media dependency terms (see Noelle-Neumann, 1974; Mutz, 1998). In a mass society, in which direct interpersonal relationships no longer organize political life, individuals have no real alternative method for aggregating collective opinion, other than relying on media reports. The psychological mechanism by which news affects opinion perceptions was not specified by Noelle Neumann in detail, but she did argue that it is not opinion polls that shape climate-of-opinion perceptions but rather cues such as “camera angles” or “crowd reactions” (Noelle-Neumann 1984, pp.165-167) which imply the distribution of opinion in society to audiences.

Later psychological research shed light on the process by which exposure to news shapes audience assessments of public opinion, largely confirming Noelle Neumann’s intuitions. This research demonstrated that people heavily rely on exemplars—describing society through the unique perspective of illustrative individuals—when they assess distributions (Bar-Hillel, 1980). This research has shown that, interestingly, exemplars are much more important than “base rate” information on actual distributions (such as opinion polls). Research in communication has confirmed that this bias applies to the estimation of the opinion climate even when it comes to exposure to mediated reports of base-rate information and exemplars (Brosius & Bathlet, 1994; Daschmann, 2000).

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Namely, interviews with “the man on the street” and crowd reactions in news coverage of demonstrations and conventions, are examples of important sources of information for audience perception of public opinion.

Overtly ideological media outlets offer numerous such expressions of public opinion (Herbst, 1996) through the mere exposure they offer to the opinions of call-in listeners, commentators and experts, interviewees, opinionated hosts and the like (all of which could be perceived as exemplars). Ample experimental (Perry & Gonzenbach, 1997) and quasi-experimental (Mutz & Soss, 1997) research demonstrated that exposure to distorted news exemplars shapes audience perceptions of the opinion climate. Interestingly, the different conditions in some of this experimental research could be interpreted as conceptually representing different distributions of opinion in opposing ideological media outlets. For example, in Perry and Gonzenbach’s (1997) study, which focused on the issue of school prayer, respondents were either exposed to exemplars supporting school prayer (somewhat similar to what one would find on a conservative network such as Fox News) or to exemplars opposing school prayer (somewhat similar to what one would find on a liberal network such as MSNBC). So, in a sense, experimental research has demonstrated that exposure to an ideologically-slanted mediated presentation of the opinion climate would be associated with a biased perception of the opinion climate perception.

In line with this research, we hypothesize that (*H1*) selective exposure to overtly ideological media is associated with opinion climate perceptions such that (*H1a*) selective exposure to conservative media is associated with the perception of a more

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ideologically conservative opinion climate, whereas (H1b) selective exposure to liberal media is associated with the perception of a more ideologically liberal opinion climate.

The current research not only extends the generalizability of past experimental studies by examining a theoretically-similar hypothesis on data obtained using large-sample survey, but also adds to the literature in five important ways. First, we focus on the effects of *selective* exposure to *ideologically-congruent* media, which may differ compared to the effects of regular exposure to exemplars in the news. Second, rather than the straightforward stimuli used in experimental research (e.g., offering 5:1 or 1:5 pro- or con- school-prayers distributions of exemplars in Perry & Gonzenbach's 1997 study), the texts broadcast on ideological media such as Fox News or MSNBC may be more complicated, may offer more subtle cues for the societal opinion, and may offer a more balanced opinion distribution. Third, our research potentially tests for cumulative and longer-term effects in comparison to the effect of a single-shot exposure to news exemplars in the lab. Fourth, by applying the logic of previous exemplification research to the current media landscape, the present investigation contributes to contemporary debates on the effects of media on society in light of the development and popularity of partisan media in the post-broadcast era (Bennett & Iyengar, 2008; Holbert, Garrett & Gleason, 2010). Fifth, unlike previous experimental research, we examine the consequences of the process and demonstrate that the effects of congruent selective exposure on perceived opinion is a part of a larger process of political polarization.

Perceived opinion and political polarization

So what happens if exposure to right-wing media makes audiences perceive the social opinion climate is tilted toward the right and exposure to left-wing media makes

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audiences perceive the social opinion climate is tilted toward the left? Following Noelle Neumann's (e.g., 1977) assertion that perceptions of public opinion bear the potential to change individual attitudes, it seems logical to expect that such tilted perceptions of the opinion climate would lead to political polarization. In other words, it is possible to expect that conservatives attending to conservative media (and perceiving a more conservative opinion climate) would be more polarized to the right and liberals attending to liberal media (and perceiving a more liberal opinion climate) would be more polarized to the left. This prediction is consistent with research in social psychology on conformity effects, in particular with small group research documenting that normative influences account for polarizing conformity effects in small group discussions (Sanders & Barron, 1977; Isenberg, 1986) especially within cohesive ideological groups (Janis, 1982). As Stroud (2010, p. 558) argues, a possible explanation is that “people want to be perceived well by their fellow group members and hence adjust their opinions toward the perceived group mean”. Thus, it is possible to hypothesize (H2) that audience opinion climate perceptions would be associated with their political polarization.

While the concept of selective exposure to likeminded media is arguably as old as modern communication research (dating back to Lazarsfeld et al., 1948), recent explorations have broadened our understanding of the *consequences* of selective exposure for democratic life. Theoretically, it has been argued that the advent of more ideological outlets fragment societies by promoting political polarization (Bennett & Iyengar, 2008, Holbert et. al., 2010; Jamieson & Cappella, 2008; Katz, 1996; Mutz, 2006; Sunstein, 2001). Indeed, recent research has empirically demonstrated that exposure to ideologically congruent channels is associated with more polarized attitudes (Jones, 2002;

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Stroud, 2010). Importantly, evidence has established that the causal mechanism behind the association works from selective exposure to polarization (Taber & Lodge, 2006 used an experimental design; Stroud, 2010 used cross-lagged analysis of longitudinal). But why and how does selective exposure promote polarization? Despite the fact that the effect of selective exposure on polarization is a central avenue of news media influence on politics in the current media environment (Holbert et al., 2010), not much is known about the mechanisms explaining the association between the two constructs. In this paper, we examine whether the effect of exposure to ideologically-likeminded media on opinion climate perceptions is part of the explanation for the effect of such exposure on polarization. Thus, we ask (RQ1): Does climate of opinion perceptions mediate the effect of exposure to likeminded media on polarization?

In what follows, the hypotheses will be tested on data collected in two different contexts. In Study1, we used data collected in Israel just before the Israeli pullout from the Gaza Strip in 2005. In Study 2, we used the 2004 National Annenberg Election Study data. While in Study 1 we only focus on H1a, in Study 2 we test both H1a and H1b and also test H2, and examine RQ1.

Study 1

Study 1 used secondary analysis of data collected by Tel Aviv University's Chaim Hertzog Institute for Society and Politics that assessed Israeli public opinion regarding the Israeli pullout from the Gaza Strip (also called "the disengagement"). The plan was proposed by the Sharon government in December 2003 as a response to increasing international pressure to advance the peace process; it also was prompted by the government's conviction that no deal was possible with Palestinian president Yasser

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Arafat. The plan included unilaterally withdrawing the Israel Defense Forces (IDF) from the Gaza Strip after relocating all 1,600 Jewish families from the Israeli settlements within this area. Proponents (mainly from the Israeli center-left bloc) argued that the disengagement was meant to decrease the friction between the Palestinian population, the settlers and the IDF who were stationed in the area to protect the settlers. The plan also was meant to decrease international pressure on Israel and to provide a testing ground for the feasibility of Palestinian sovereignty. The plan met fierce opposition from the Israeli right wing. Opponents of the plan argued that after the evacuation of the IDF, the area would turn into a basis for terrorist activities against Israel. They also argued that unilaterally giving up territory while receiving nothing in return would create the impression among Palestinians that violence pays off (thus encouraging future violence). Finally, the opposition argued that the relocation of the settlers violates their civil rights. After a heated debate in Israel and faced with large scale protests and the threat of the use of violence, the plan was executed in August 2005.

Data were collected using a telephone survey ($n = 519$) conducted on a probability sample of the adult Israeli population in July 2005. Interviews were conducted in Hebrew, Arabic and Russian. AAPOR Response Rate 1 was 17%. Of respondents, 48.9% were male, 24.1% were religious, 89.6% were Jewish Israelis, and 22.9% were Mizrahi Jews (of predominantly Middle Eastern ethnic origin). On average, respondents had 13.17 years of schooling ($SD = 2.66$) and the mean age was 43.46 ($SD = 17.58$). Importantly, as other public opinion surveys published at the time indicated, support for the disengagement was more prevalent than opposition: 47.6% of respondents supported, while only 38.9% opposed, the disengagement plan.

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Measures.

The *dependent variable*—perceived opinion climate—was measured using an item worded “to the best of your knowledge, what percentage of Israeli citizens support the disengagement plan today?” ($M = 51.08$, $SD = 18.02$). The *independent variable*—exposure to right wing ideological media—was measured using two indicators, the first focused on right wing newspapers and the second on online outlets. The first indicator was worded “what newspaper do you usually read?” and coded “1” for the right wing newspapers *Makor Rishon*, *Hatzofe*, *Besheva* and other right wing outlets and “0” for all other outlets. The second indicator, focused on consumption of online political information, was worded “when you surf the web for information regarding disengagement, what is the main website you use?” Right wing Arutz 7, “Gush Katif websites or other websites opposing evacuation” were coded “1” while all other outlets were coded “0”. As our study was aimed at exploring the effects of exposure to ideologically congruent media we also calculated dummy variables for exposure to right-wing newspapers and online outlets by respondents who reported opposing the disengagement. These variables were coded “1” for respondents who reported opposing the disengagement plan who also reported frequent exposure to right-wing media, and “0” for all other respondents.

Control variables. To rule out the possibility of spuriousness, the models reported below controlled for political ideology, attitude towards the disengagement, attitudes towards the settlements in Gaza, close following of news coverage of the disengagement and demographic factors (age, sex, being religious, Mizrahi ethnic origin, and years of schooling). Since previous research has demonstrated that perceived public opinion is

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affected by perceived media bias and third person perceptions (Tsfati & Cohen, 2003), these variables also were included as covariates in the model. Measures of these control variables are detailed in Appendix 1.

Results

To test for H1a, two OLS models were run with perceived opinion as the dependent variable. Results are reported in Table 1. In Model 1, the main independent variables are indicators of exposure to online and print right-wing-media (by disengagement supporters and opponents alike) whereas the main independent variables in Model 2 are indicators of selective exposure to *ideologically-congruent* right-wing media (that is, exposure to right-wing media by disengagement opponents only). The models explained 39.10% and 40.60% of the variance respectively.

Results demonstrated that the best predictor of perceived public opinion regarding the disengagement was one's personal attitude toward the disengagement. The more respondents supported the plan, the more they tended to perceive that the public at large supports the plan (e.g., in Model 1 $b = 4.70$, $SE = .68$). Political ideology was similarly associated with perceived opinion such that the more respondents ranked themselves on the left, the more they perceived public opinion to be supportive of the disengagement ($b = 1.00$, $SE = .59$, however this association was only of borderline significance, $p = .059$ in Model 1). Consistent with previous findings, the more respondents perceived news coverage of the disengagement as biased in favor of Sharon's disengagement plan (e.g., $b = 1.81$, $SE = .77$, in Model 1), and as influential on others compared to self ($b = 1.09$, $SE = .46$ in Model 2; this association was only of borderline statistical significance in Model 1), the more they perceived that public opinion would be likewise favorable toward the

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plan. None of the demographic variables significantly predicted climate of opinion perceptions. Over and above the contribution of these factors, Model 1 demonstrates that respondents reporting frequent exposure to right-wing print and online news outlets were significantly more likely to perceive that the public opposes the disengagement $b = -5.47$, $SE = 2.73$, for online outlets, $b = -5.97$, $SE = 3.15$, $p = .059$ for print outlets).

H1a predicted that congruent exposure to right-wing media would be associated with perceiving that the opinion climate is tilted to against the disengagement. As demonstrated in Model 2, ideologically-congruent exposure to right-wing print and online outlets was negatively and significantly associated with perceived public opinion. All other things being equal, the perceived support for the disengagement among respondents opposing the disengagements and exposed to right wing media was 9.57 ($SE = 3.33$) percentage points lower in the case of online media and 9.70 ($SE = 3.61$) percentage points lower in the case of print outlets, compared to other respondents.

Discussion

Study 1 demonstrated that exposure to right-wing media was associated with perceiving that the opinion climate was tilted toward the right wing, over and above controls for demographic and political factors. Assuming that the distribution of opinion presented in right wing media outlets indeed presented more exemplars opposing the disengagement than supporting it, this finding is similar to the one obtained in experimental exemplification research (e.g., Perry & Gonzenbach, 1997). However, beyond extending the external validity of previous findings by examining a similar hypothesis using survey data, the current investigation also demonstrated that this association holds, and was even stronger, when it comes to selective exposure to

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ideological media (the coefficients for exposure to right wing online and print outlets in Model 1 were a bit more than half the size of the parallel coefficient for ideologically congruent exposure to the same outlets, in Model 2).

While providing preliminary support for the core hypothesis of the present investigation, Study 1 was limited in several respects. First, respondents were not asked about their exposure to left-wing media, and this fact does not allow us to test for *H1b*. Second, standard measures of polarization (e.g., Stroud, 2010) were not included and this fact does not allow us to test for *H2*. Third, the findings are limited to the very dramatic political context of the pullout from Gaza. In Study 2, we test for both *H1* and *H2*, in the more standard context of a US presidential election campaign.

Study 2

Our second study examines the hypotheses and research question in the context of the 2004 Bush-Kerry U.S. presidential campaign. Throughout this campaign, the gap between the candidates in pre-election polls was almost always lower than four percentage points (Traugott, 2005). Given the relatively close contest, and hence, the vague opinion climate, this campaign is very suitable as a context for the study of perceived public opinion. This study reports on secondary analysis of data from the 2004 National Annenberg Election Survey (NAES; Romer et al., 2006). In addition to containing indicators of perceived opinion climate and validated measures of polarization, the biggest advantage of the 2004 NAES data for our purpose is our ability to use it in combination with secondary analysis of data on partisan media use (Stroud, 2008, 2010). While Stroud (2010) used the 2004 ANES to demonstrate that partisan media exposure is associated with polarization, we use the same data to demonstrate that partisan media

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exposure shapes opinion climate perceptions (H1), and that opinion climate perceptions mediate the association between partisan selective exposure and polarization, documented by Stroud (2010).

The NAES project used a rolling-cross section design that yields a random cross-section of the US adult population for each night of interviewing. In this study, we utilized data gathered between June 9 (the day after the final primary election) and November 1, 2004. Using AAPOR's RR1 formula, response rate was 22 percent. While the overall N for this period was 39,338, because several of the questions utilized here were only asked for a random part of the sample, only 5,509 respondents were included in the current analysis.

Measures

To measure *perceived opinion climate*, we used questions relating to candidates chances in the elections. At random, half of NAES respondents were asked a question worded "Using a 100-point scale, please tell me the chances that George W. Bush will beat John Kerry in the general election. A zero means no chance, 50 a 50-50 chance and 100 a certain win". The other half was asked an identically worded question about the chances of Kerry beating Bush. Both items were combined after subtracting the answer to the second question from 100, creating a measure for the chances that Bush would win the general elections ($M = 49.54$, $SE = 26.33$).

To measure *ideological selective exposure* we used measures developed and applied to the NAES data by Stroud (2010, pp. 563-566). Stroud first identified the different conservative or liberal leanings of the different news outlets reported as frequent news sources by NAES respondents: For newspapers, her classification was based on

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endorsements. For radio programs, the classifications were “based on self-identification of radio hosts/shows, the ideological affiliations ascribed to the programs by trade magazines or how prior research classified the programs” (p. 564). Based on previous content analytic research, Fox News was classified as a conservative-leaning outlet and CNN and MSNBC as a liberal leaning outlet. For the political internet, Stroud used content analysis to classify open-ended responses to a question asking respondents to identify the websites they used to obtain information about the campaign for president in the past week. In the next stage, Stroud created an index of conservative exposure by summing respondents’ reports of reading newspapers endorsing Bush, listening to conservative talk radio, watching Fox and accessing conservative websites (range 0-4; $M = .57$, $SD = .76$), and an index of exposure to liberal media by summing reading newspapers endorsing Kerry, listening to liberal talk radio, watching CNN or MSNBC and accessing liberal websites (range 0-4; $M = .78$, $SD = .80$). In the final stage, to measure selective exposure to ideologically-congruent media, all respondents who were not self-identified as conservatives or Republicans received a score of zero on the selective exposure to conservative media measure and all respondents who were not self-identified as liberals or Democrats received a score of zero on the selective exposure to liberal media measure.

To measure *polarization*, we followed Stroud’s (2010, 2011) measure which, based on Fiorina et al. (2005) and Mutz (2002), utilized the difference between candidates’ thermometer ratings. NAES respondents were asked, “for each of the following people in politics, please tell me if your opinion is favorable or unfavorable using a scale from 0 to 10. Zero means very unfavorable, and 10 means very favorable. Five means you do not

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feel favorable or unfavorable toward that person. Of course you can use any number between 0 and 10.” They were asked this question both for Bush ($M = 5.25$, $SD = 3.71$) and for Kerry ($M = 5.07$, $SD = 3.29$). We operationalized polarization as the difference between the thermometer ratings for Bush and Kerry. Unlike Stroud, and given that perceived opinion climate is a directional measure, we did not take the absolute value of the difference score, but rather, we used a measure that varies between -10 (very favorable towards Kerry-very unfavorable towards Bush) to +10 (very favorable towards Bush-very unfavorable towards Kerry). This measure had a mean of .18 ($SD = 6.41$).

Control variables. Following Stroud (2010), all models reported below control for demographics, media use, media attention and political orientations (ideology, partisanship, political interest, discussion with friends and family, general political knowledge and strength of political leanings). These variables, constructed in an identical manner to Stroud’s control variables, are described in Appendix 2.

Results

We first ran regression models predicting perceived opinion climate, with indicators of news exposure and ideologically-congruent news exposure, as the independent variables, while controlling for all covariates. Results are reported in Table 2. In Models 1 through 10, the main independent variables are indicators of exposure to partisan media. In Models 11 through 20, the main independent variables are indicators of ideologically-congruent exposure to news media (that is, exposure of conservatives to conservative media and liberals to liberal media).

As Models 1 through 10 demonstrate, exposure to partisan media was associated with opinion climate perceptions. The coefficients for exposure to conservative media

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outlets were all positive indicating perceptions of increased chances of Bush winning the elections, and the coefficients for liberal media were all negative indicating perceptions of decreased chances of Bush winning the elections. The coefficients were all significant with the exception of the coefficients for conservative newspapers and websites (Models 5 and 7) which were of borderline statistical significance.

H1 is tested in Models 11 through 20. *H1a* predicted that ideologically congruent exposure to conservative media would be associated with perception of a more conservative opinion climate. This hypothesis (tested in Models 11, 13, 15, 17 and 19) was supported in four out of five models. All else being equal, the perceived chances of Bush winning were 4.11 ($SE = .89, p < .001$) points higher for conservatives regularly watching Fox news, 3.57 ($SE = 1.00, p < .001$) points higher for conservatives listening to conservative talk radio, and 2.58 ($SE = .93, p < .01$) points higher for conservatives reading likeminded newspapers, compared to all other respondents. Each one-unit increase on the total conservative selective exposure scale was associated with an increase of 2.78 ($SE = .48, p < .001$) points in perceived opinion in favor of Bush. The only exception was the coefficient for conservative websites (Model 17) that, although in the expected direction, was not significant. Overall, the models supported H1a.

H1b predicted that ideologically-congruent exposure to liberal media would be associated with perception of a more liberal opinion climate. This association was significant in all five Models. All else being equal, the perceived chances of Bush winning were 4.45 ($SE = .74, p < .001$) points *lower* for liberals regularly watching MSNBC or CNN, 3.65 ($SE = 1.08, p < .001$) points *lower* for liberals listening to liberal talk radio, 3.77 ($SE = .78, p < .001$) points *lower* for liberals reading liberal newspapers,

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and 10.08 ($SE = 2.72, p < .001$) points *lower* for liberals exposed to liberal websites in comparison to all other respondents. Each one-unit increase on the total liberal media exposure scale was associated with a *decrease* of 3.21 ($SE = .41, p < .001$) points in the perceived chances of Bush. In sum, H1b was overwhelmingly supported.

In the next stage, we ran OLS models predicting political polarization, with the selective exposure indicators and opinion climate perceptions as the main independent variables while controlling for all covariates. Results are reported in Table 3. Replicating the results reported by Stroud, exposure to conservative media was borderline significantly associated with more polarized conservative attitudes (in Model 1: $b = .80, SE = .44$), whereas exposure to liberal media was associated with more polarized liberal attitudes (in Model 2: $b = -2.08, SE = .38$). Consistent with H2 and over and above the contribution of all of the covariates, perceived opinion climate was consistently associated with polarization. The more respondents perceived that Bush was the likely winner, the more their polarization scores reflected favorability towards Bush combined with un-favorability towards Kerry, and the more respondents perceived an opinion climate that favors Kerry, the more their polarization scores reflected favorability towards Kerry combined with un-favorability towards Bush (in Model 3: $b = .08, SE = .01, p < .001$; in Model 4: $b = .07, SE = .01, p < .001$). Adding perceived opinion climate into the model increased the explained variance by approximately one percent.

Our Research Question (RQ1) asked whether perceived opinion climate serves as a mediator in the association between selective exposure to ideologically-congruent media and polarization. Baron and Kenny (1986) claim that mediation occurs when the independent variable significantly affects (1) the dependent variable and (2) the proposed

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mediator; (3) the proposed mediator significantly affects the dependent variable, controlling for the independent variable, and (4) the effect of the independent variable on the dependent variable decreases when controlling for the mediator. The evidence presented above already demonstrated that consistent with Baron and Kenny's conditions, ideologically-congruent exposure affects both opinion climate perceptions and polarization, and that perceived opinion climate also affects polarization. Table 2 also demonstrates that, consistent with the fourth condition, the effect of ideologically congruent exposure is reduced when adding the mediator (perceived opinion) into the regression model). Interestingly, the fact that the coefficient for the effect of congruent-liberal-exposure on polarization remained significant even when controlling for opinion climate suggests that perceived opinion climate only partly mediates the association between liberal-selective-exposure and polarization. This suggests that perhaps additional factors partly mediate this association as well.

We also tested whether perceived opinion mediated the effect of selective exposure on polarization using Preacher and Hayes' (2008) indirect SPSS macro. The bootstrap result for the mediated effect was statistically significant in both models (for conservative media the indirect $b = 1.38$, $SE = .14$, $95\% CI [1.10, 1.65]$, $p < .05$; for liberal media the indirect $b = -.88$, $SE = .09$, $95\% CI [-1.05, -.70]$, $p < .05$). Thus, the NAES data demonstrated that the mediated effect of ideologically-congruent exposure on polarization through perceived opinion climate is statistically significant.

Discussion

Using the 2004 NAES data, we were able to demonstrate that exposure to conservative media makes people perceive a more conservative opinion climate and vice

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versa for liberal media. We were also able to demonstrate that this effect has important political implications: Opinion climate perceptions were associated with more polarized opinions. Our findings also revealed that opinion climate perceptions are part of the mechanism underlying the association between partisan selective exposure and political polarization, reported by Stroud (2010).

General discussion

When formulating her spiral of silence theory in the 1970s, Noelle Neumann assumed a homogeneous, almost monopolistic, media landscape that projects a consonant opinion climate. Noelle Neumann also assumed that audience members have little ability to selectively expose themselves to ideologically congruent news (Metzger, 2009, p. 570). Both of these assumptions of consonance and lack of selectivity lay at the core of Noelle Neumann's (1973) conception of media as exerting enormously strong influences on society (Scheufele, 2008). However, as recent findings demonstrate, the post-broadcast media landscape and the way audiences have adjusted their exposure habits to this changing landscape by selectively exposing themselves to ideologically congruent media (Iyengar et al., 2008; Stroud, 2011), have largely invalidated Noelle Neumann's core assumptions. Does this mean that media have lost their ability to shape audience perceptions of the opinion climate? Does this mean that, at least when it comes to media effects on opinion climate assessments, we are entering the new era of minimal media effects, envisioned by Bennett and Iyengar (2008)? The answer provided to these questions in the current investigation is negative, but complicated.

Two studies, conducted in very different political contexts, demonstrate that exposure to ideologically-slanted media outlets was associated with a perception of an

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opinion climate that is biased in the direction of the media outlets' ideology. In other words, over and above tight controls for ideological and demographic factors, audiences of right-wing media perceive a more right wing opinion climate and vice versa for audiences of left-wing media. These associations are consistent with the argument that exposure to ideological media shapes opinion climate perceptions.

The mechanism underlying these associations is probably related to cognitive processes such as the base rate fallacy (Bar Hillel, 1980) which is the human tendency to heavily rely on vivid individual cases when assessing distributions. Experimental exemplification research has documented that exposure to a slanted (liberal or conservative) set of exemplars in news coverage makes audiences perceive a correspondingly slanted (liberal or conservative) public opinion, even when base rate information (on the actual distribution of opinion, such as polling information) is presented (Brosius & Bathelt, 1994). The transformation of the media landscape in recent decades left little impact on the cognitive psychology of human reasoning and information processing. People are still affected by exemplars when they assess distributions. However, the advent of ideological media did impact the social ramifications of these cognitive processes. Instead of a situation in which a homogenized presentation of societal opinion almost universally affects audience opinion climate perceptions to the left or right, as was the case four decades ago, in the current media landscape, those attending to liberal media tend to think that society at large is more liberal and those attending to conservative media tend to perceive society is more conservative.

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While the psychological individual-level effect of media on perceived public opinion seems to remain unchanged by the transformation of the media landscape, the ramifications at the macro level are dramatic. In the era of dominant broadcast media, Noelle Neumann had argued that the effect of media on the opinion perceptions was the instigator for a societal silencing conformity effect. Study 2 findings demonstrate that rather than social conformity at the macro level, the end result of the process described in this paper is social polarization. Instead of a perceived minority yielding to the perceived majority by withdrawing from public debate, abandoning the fight (in the words of Katz, 1983, p. 89) and refraining from political recruitment, audiences of partisan media on both sides of the political spectrum in the current environment are becoming more confident in their camp's popularity and probable triumph and as a result are turning more polarized in their attitudes. While the effects on opinion expression were not tested in the present investigation, it is possible to speculate (given past findings demonstrating that opinion expression is associated with perceived support for one's opinion, Shanahan, Glynn & Hayes, 2007, for a review) that in the new media environment, rather than a spiraling process in which one camp shuts itself out of public discussion, large segments of both political camps may become more vocal and politically outspoken as a result of the effects of selective exposure to congruent media on public opinion perceptions. Consistent with this possibility, recent findings document that selective exposure to ideologically-congruent media is associated with increased levels of political participation (Dilliplane, 2011; Stroud, 2011) which almost always necessitates opinion expression.

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As noted above, the effects of ideological media on opinion climate perceptions were stronger when exposure was ideologically congruent. The reason for this noteworthy finding is perhaps that when news exposure is congruent to one's political ideology, the base-rate fallacy is accompanied by other factors that shape public opinion perceptions. In addition to projection of one's opinion, conservative audiences of conservative media may perceive that the conservative media enjoy larger reach, and are more persuasive, compared to liberal or neutral audiences of conservative media (in line with Gunther et al., 2001) and as a result, the effect of conservative media on their climate of opinion perceptions is stronger in comparison for the equivalent effect on other audiences. The same could be said regarding liberal audiences of liberal media.

Other findings in the present investigation, unrelated to the effects of exposure to ideologically congruent media, were in line with theoretical expectations and previous research. One of the strongest forces predicting opinion climate perceptions was one's political predispositions. In both studies, liberals tended to perceive a liberal opinion climate and conservatives tended to perceive a conservative opinion climate. These associations are consistent with research on the projection hypothesis that indicates that people tend to project their own opinions on society and perceive that others people hold similar opinions to themselves (Fields & Schuman, 1976; Kenamer, 1990). Also in line with previous research (Tsfati & Cohen, 2005), third person perceptions regarding the perceived effects of mainstream media significantly predicted perceived public opinion, and so did perceptions of bias in mainstream media coverage (in Study 1). In addition, in Study 2, Blacks and Hispanic respondents tended to perceive that Bush had lower chances of winning the election, and these results are consistent with finding about

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minority perceptions of the opinion climate in previous investigations (Tsfati, 2001), and with the argument that reference group membership should be taken into account in models predicting perceived public opinion, given the likely effect of reference groups on such estimations via interpersonal discussion and vicarious observation (Krassa, 1988).

While the main finding was obtained in two different contexts using different measures and despite controlling for numerous potential causes of spuriousness, the present investigation suffers from several limitations. First and foremost, given the use of secondary data, that did not contain questions about opinion expression in interpersonal contact with anonymous others (e.g., Noelle Neumann's train test), we were not able to test the spiral of silence process in full and examine whether the effects of exposure to ideologically congruent media on opinion climate perceptions translate into more vocal opinion expression (as Noelle Neumann predicted, albeit with a different macro-level result). This important question remains open for future research.

A second limitation has to do with the question of causality. The exploratory research, reported above, taught us exposure to ideological media is associated with opinion climate perceptions. One interpretation of these results is that exposure to such outlets *shapes* opinion climate perceptions. This interpretation is consistent with a long tradition of research on exemplification (e.g., Brosius & Bathelt, 1994; Daschmann, 2000), and with the logic of social psychological research on distribution assessments and with the causal direction implied by spiral of silence research (Noelle Neumann, 1974, 1977, 1984). It is important to stress that the causal direction of the association between exposure to ideological media and climate of opinion perceptions is not only supported

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logically and theoretically, but it also could be inferred from previous experimental (Perry & Gonzenbach, 1997) and quasi-experimental (Mutz & Soss, 1997) research.

However, the present evidence does not allow us to fully negate the rival causal explanation, namely that people expose themselves to ideological media *because of* their perception of the opinion climate (perhaps because they want to know what the majority is thinking, or because they want to get their news from the perspective of the majority). This explanation is inconsistent with a long research tradition regarding selective exposure (Stroud, 2011) and with recent findings demonstrating that while people do not actively avoid incongruent or disconfirming channels, they do have a strong preference to expose themselves to ideologically-congruent news (Garrett, 2009). Hence, while future research should substantiate the causal mechanism behind the association demonstrated in this study using longitudinal or experimental designs, the reverse mechanism seems somewhat unlikely on conceptual and theoretical grounds.

This study has answered Bennett and Iyengar's (2008) call and examined how the transformation of the media landscape had affected the media effects component of spiral of silence theory. As evident from the present investigation, it may very well be that the psychology of individual level effects will be found unchanged by shifts in the media environment when putting other theories from the "return to the powerful media" tradition (such as agenda setting, cultivation and media priming and framing) to similar tests. After all, the cognitive mechanisms that lay at the core of these media processes (such as heuristic processing) were not affected by the shifts in the media market. However, the macro-level social consequences may be substantial. Similarly to spiral of silence theory, other theories of relatively-strong effects, all facilitate social cohesiveness

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and the “mainstreaming” of society (e.g. in agenda setting, a shared social agenda is adopted by a diverse audience; in media framing, diverse audiences learn to accept certain interpretations of social realities as valid). The ideological fragmentation of the media market may contribute to social and political polarization via other mechanisms, not just opinion climate perceptions that should be spelled out and investigated in future research. As Holbert et al. (2010) argue, polarization and attitude reinforcement are important media effects, arguably the strongest media effects on society in an era of media choice. Our long journey to understand media effects on society in a constantly changing communication and political surroundings still has a long way to go.

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Table 1: OLS models predicting perceived public opinion towards the disengagement (Study 1, Chaim Hertzog Institute data)

	Model 1	Model 2
Exposure to right-wing online outlets	-5.47 (2.73)*	
Exposure to right-wing print outlets	-5.97 (3.15) [#]	
Congruent exposure to right-wing online outlets		-9.57 (3.33)**
Congruent exposure to right-wing print outlets		-9.70 (3.61)**
Political ideology	-1.00 (.59) [#]	-1.00 (.59) [#]
Attitudes towards the disengagement plan	4.70 (.68)***	4.24 (.69)***
Attitudes towards the settlements in Gaza	.93 (.84)	.96 (.83)
Close-following of print news	-.51 (.66)	-.32 (.62)
Close-following of television news	1.02 (.61) [#]	.78 (.60)
Perceptions of biased coverage	1.81 (.77)*	1.93 (.76)*
Third person perceptions	.92 (.48) [#]	1.09 (.46)*
Sex	-.45 (1.61)	-.59 (1.60)
Age	.06 (.05)	.06 (.05)
Years of schooling	.21 (.31)	.19 (.30)
Religiosity (=1)	.91 (2.25)	1.88 (2.25)
Mizrahi ethnic origin (=1)	-2.48 (2.54)	-2.54 (1.92)
R^2	.39	.40
N	322	322

Notes: [#] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

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Table 2: OLS models predicting perceived opinion climate (chances of Bush winning the elections on a 0 to 100 scale, NAES 2004 data)

	Exposure to partisan media	Ideologically-congruent exposure to partisan media
FOX	Model 1 2.49 (.69)***	Model 11 4.11 (.89)***
MSNBC/CNN	Model 2 -1.57 (.59)**	Model 12 -4.45 (.74)***
Conservative radio	Model 3 3.26 (.98)***	Model 13 3.57(1.00)***
Liberal radio	Model 4 -2.17 (.62)*	Model 14 -3.65(1.08)***
Conservative newspapers	Model 5 1.05 (.64) [#]	Model 15 2.58 (.93)**
Liberal newspapers	Model 6 -1.18 (.60)*	Model 16 -3.77 (.78)***
Conservative websites	Model 7 4.98 (2.81) [#]	Model 17 4.22(2.97)
Liberal websites	Model 8 -8.14 (2.52)***	Model 18 -10.08(2.72)***
Total exposure to conservative news	Model 9 1.79 (.40)***	Model 19 2.78 (.48)***
Total exposure to liberal news	Model 10 -1.65 (.37)***	Model 20 -3.21 (.41)***
R ² range	.22 - .23	.22 - .23
N	5,510	5,510

Notes: [#] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. All models control for political, demographic variables and media exposure and attention variables.

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Table 3: OLS models predicting political polarization (NAES 2004, $N = 5,479$)

	Model 1	Model 3
Selective exposure to conservative media	.80 (.44) [#]	.58 (.44)
Perceived opinion climate		.08(.01) ^{***}
R ²	.07	.08
	Model 2	Model 4
Selective exposure to liberal media	-2.08 (.38) ^{***}	-1.86 (.38) ^{***}
Perceived opinion climate		.07 (.01) ^{***}
R ²	.07	.08

Notes: [#] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. All models control for political, demographic variables and media exposure and attention variables

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Appendix 1: Study 1 control variables

Political ideology was measured on a 1("right") to 7 ("left") scale ($M = 4.38$, $SD = 2.27$). Respondents' attitude towards the disengagement was measured using a single item, worded "to what extent do you support or oppose Prime Minister Sharon's disengagement plan?" Answer categories varied between "strongly oppose" (coded 1) to "strongly support" (coded 0, $M = 3.11$, $SD = 1.73$). Attitudes towards the settlements in the Gaza strip were measured using four items, worded "The settlements in Gaza hurt Israel's image in the world", "...exist on the expense of Israelis living within the green line", "...exist on the expense of Palestinians living in the Gaza Strip", and "there is no moral problem with the settlements in the Gaza Strip" (reverse coded). Response categories ranged between 1 (for "strongly disagree") to 5 (for "strongly agree", Cronbach's alpha = .82, $M = 3.03$, $SD = 1.28$). Close following of news coverage of the disengagement was measured using two items (on a 1-5 scale), the first relating to frequently reading newspaper coverage about the disengagement ($M = 3.25$, $SD = 1.71$) and the second to watching television news or debates regarding the disengagement ($M = 3.63$, $SE = 1.55$). As the correlation between these items was low ($r = .29$, $p < .001$), they were entered separately into the model.

Perceived media bias was measured using a single item, worded "in general, to what extent is the disengagement plan fairly presented in media coverage?" With answer categories varying between "not at all fairly" (coded 1) to "very fairly" (coded 5, $M = 2.65$, $SD = 1.29$). Third person perceptions were measured using two items, one measuring perceived media impact on others ("to what extent is Israeli public opinion towards the disengagement affected by the way the settlements are covered by media?")

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and the other perceived media impact on self ("to what extent is your own attitude toward the disengagement affected by the way the settlements covered by media?") both items had answer categories ranging between 1 for "not at all affected" to 5 for "affected to a great extent". As expected by the third person hypothesis, the difference between these items was statistically significant (paired sample $t = 20.54$, $df = 501$, $p < .001$), and this difference was used as the measure of third person perceptions ($M = 1.57$, $SD = 1.71$).

Appendix 2: Study 2 control variables

This appendix reports NAES variable names and descriptive statistics for Study 2 covariates. Following Stroud (2010), all models control for demographics: Education (cWA03, $M = 14.16$, $SD = 2.52$), age (cWA02, $M = 48.22$, $SD = 16.50$), income (cWA04, $M = 54.46$ thousand dollars, $SD = 34.31$), gender (cWA01, 55.90% female), race (cWC03, 8.10% Black/African American) and ethnicity (cWC01, 8.00% Hispanic).

The media use measures were based on days in past week of reported exposure to national network news (cEA01, $M = 2.57$, $SD = 2.62$), 24-hour cable news channel (cEA03, $M = 3.06$, $SD = 2.84$), local television news (cEA06, $M = 3.96$, $SD = 2.77$), a newspaper (cEA10, $M = 3.76$, $SD = 2.91$), NPR (cEA14, $M = 1.17$, $SD = 2.21$), non-NPR talk radio (cEA15, $M = 1.29$, $SD = 2.18$), internet use for campaign information (combined from cEA22 and cEA23, $M = 1.00$, $SD = 2.02$). Another media related covariate measured internet access (cEA21, 73%). The media attention measures (range 0-3, higher values indicate more attention to stories about the campaign) were based on a question worded "During the past week, how much attention did you pay to national network/cable television news?" (cEA05, $M = 1.91$, $SD = .91$), "local television news?" (cEA07, $M = 1.69$, $SD = .91$) and "newspaper coverage?" (cEA05, $M = 1.79$, $SD = .94$).

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The political ideology measure (cMA06) varied between very conservative (coded 1) to “very liberal” (coded 5, $M = 2.81$, $SD = 1.00$). The partisanship measure (created from questions cMA01 through cMA03) varied between 1 for “strong Republican” to 5 for “strong Democrat” ($M = 3.03$, $SD = 1.59$). The political interest item (cKA01) was worded “Some people seem to follow what is going on in government and public affairs most of the time, whether there is an election or not. Others are not that interested, or are interested in other things. Would you say you follow what is going on in government and public affairs most of the time” (coded 4), “some of the time, only now and then, or hardly at all” (coded 1)? ($M = 3.10$, $SD = .90$), Political discussion (cKB01) was measured using the reported number of days in the past week in which respondents discussed politics with friends and family ($M = 3.22$, $SD = 2.53$). General political knowledge (cMC01 through cMC09) was measured using the number of correct answers to five knowledge questions ($M = 2.60$, $SD = 1.21$). Strength of political leanings was measured using a combination of variables asking about the strength of ideological and partisan orientations (cMA01 through cMA06, range: 0-4 with higher values for stronger leanings, $M = 2.01$, $SD = 1.15$).