RESEARCH NOTE

How social desirability bias impacts the expression of emotions

Marzia Oceno (iD)

Department of Politics & International Relations, Florida International University, Green School of International & Public Affairs, Miami, USA
Email: moceno@fiu.edu

Abstract
Emotions and their sociopolitical impact have received increasing scholarly attention. However, it remains largely unclear whether emotional expression within surveys is subject to social desirability bias. By drawing on impression management theory and the disclosure decision model, I argue that emotional expression is likely prone to social desirability bias in interviewer-administered survey modes and test my hypotheses on mixed-mode ANES data. The findings demonstrate that respondents significantly underreport negative emotions—anger and fear—when interviewed face-to-face as compared to online. Furthermore, positive emotions, such as hope and pride, are not exempt from biased reporting related to interview mode. These results highlight the risks of estimating emotions and their salience by either relying on interviewer administration or combining survey modes.

Keywords: political psychology; measurement; survey methodology; emotion; mode effects; social desirability

The political psychology of emotions has attracted growing interest within recent scholarship. Political scientists have found emotions to be substantially linked to attitudes about issues ranging from public health, terrorism, immigration, and climate change to commitment to democratic norms and political participation (e.g., Bethany and Gadarian, 2015; Valentino et al., 2018; Phoenix, 2019; Webster, 2020; Webster and Albertson, 2022). This heightened attention to the implications of emotions raises the question of how to accurately measure emotions in surveys. While social desirability bias has been identified in self-reports related to several sensitive issues or inappropriate behaviors, it remains an open question whether and to what extent emotional expression is also subject to social desirability, and how those pressures can bias survey estimates.

By drawing on impression management theory and the disclosure decision model (DDM), I argue that participants tend to underreport their emotions, particularly negatively valenced ones. In other words, they can be expected to conceal either the type of emotional predisposition they experience or its intensity due to social pressures and concerns about social sanctions. These pressures are more likely to emerge in interviewer-administered than self-administered studies, as the presence of an interviewer makes social desirability demands particularly salient. I test these expectations by relying on the American National Election Studies (ANES), which interviewed their nationally representative sample in 2012 and 2016 according to both an interviewer-and a self-administered mode.

1. Survey mode effects and social desirability response bias

An extensive literature shows that survey mode can impact responses and, accordingly, the accuracy of estimates. In particular, the presence of an interviewer likely leads to differences in how questions are perceived and, consequently, the answers that are provided, even if questions are identically worded (e.g., Chang and Krosnick, 2009, 2010). Interview mode may influence response quality for various reasons (e.g., Holbrook et al., 2003). Among them, social desirability response bias has been found to be closely linked to interview modality (e.g., Atkeson, Adams, and Alvarez 2014).

Social desirability bias refers to the tendency to admit to more socially acceptable behaviors and attitudes while denying or downplaying more unacceptable ones (e.g., Krumpal, 2013). This bias ensues from the undesirability not of a survey question, but rather of a particular answer. Research demonstrates that response undesirability varies by interview mode. Specifically, self-administration (i.e., mail or Web) has been found to reduce social desirability bias as compared to interviewer-administration (i.e., telephone or face-to-face) across a broad set of contexts (e.g., Heerwegh, 2009). Indeed, respondents may feel pressure to avoid violations of social norms or deviations from expectations when social approval needs and self-presentation concerns are made salient by the presence of an interviewer (e.g., Turnley and Bolino, 2001; Tourangeau and Yan, 2007). The likelihood of disclosing personal information honestly and completely tends to increase as the "social distance" between interviewee and interviewer increases (e.g., Holbrook et al., 2003).

The range of issues that have been found to be significantly affected by social desirability response bias is large and diverse. Respondents are more likely to underreport their negative academic performance over the phone than on the Web (Kreuter et al., 2008), overreport religious attendance when interviewed in person (Smith, 1998), underreport same-gender sexual orientation and experiences (Villarroel et al., 2006) as well as STD symptoms and diagnoses (Villarroel et al., 2008) when interviewed by a human telephone interviewer, underreport illegal drug usage with personal interviewing (Roger et al., 2000), underreport depression and anxiety symptoms when interviewed in person (Epstein, Barker, and Kroutil 2001), display more extreme response styles in person than online (Mingnan et al., 2017), and provide warmer feeling thermometer ratings in face-to-face than web surveys (Liu and Wang, 2015). Regarding political behavior, voters are more likely to overreport turnout over the phone than on the Internet (Holbrook and Krosnick, 2010), and to display confidence in the electoral process, trust in government, and self-efficacy in interviewer-administered than self-administered surveys (Atkeson, Adams, and Alvarez 2014). With respect to racial attitudes, white participants exhibit lower levels of old-fashioned racial prejudice, symbolic racism, and opposition to race-conscious policies in face-to-face than mail surveys (Krysan, 1998). Analogously, U.S.-born Latino, Black, and white respondents report lower racial animus in the face-to-face than Internet mode (Marisa and Michael Alvarez, 2018).

2. Social desirability and emotional expression

While there is vast evidence of survey mode effects and social desirability bias in many issue areas, and the study of emotions has recently received considerable attention in political science (e.g., Bethany and Gadarian, 2015; Valentino et al., 2018; Phoenix, 2019; Webster, 2020; Webster and Albertson, 2022), it remains largely unclear whether and to what extent social desirability bias affects the measurement of emotional expression in surveys. Relying on impression management theory and the disclosure decision model, I argue that the expression of emotions tends to be subject to social desirability bias. Specifically, the theory of impression management (i.e., self-presentation) posits that individuals put effort into influencing the images others have of them and creating favorable impressions (e.g., Turnley and Bolino, 2001; Cong et al., 2011). Analogously, according to the DDM, risks of social rejection and/or discomfort likely influence the extent to which respondents are willing to share intense emotions (e.g., Omarzu, 2000). As it pertains to emotion, social desirability thus refers

to perceived appropriateness (Shields, 2002). Emotions are considered inappropriate when the individual fails to follow or meet social norms and expectations either qualitatively—by showing the "incorrect" emotion for the situation—or quantitatively—by showing the "correct" emotion but with "incorrect" intensity for the circumstances (Shields, 2005). In other words, we can expect individuals to strategically regulate their emotions based on situational or social needs, thus creating a gap between the emotions they feel internally and the ones they show to observers and interviewers (Kleef et al., 2022). This raises the question of what type and level of emotions are more likely to be viewed as inappropriate.

Overall, the expression of negative emotions and, particularly, high-intensity negative emotions is perceived as significantly less appropriate than that of positive or low-intensity negative ones (e.g., Hajo and Brett, 2018; Waterloo et al., 2018). Indeed, individuals who disclose more negative emotions are often viewed as maladjusted and unstable (Caltabiano and Smithson, 1983). The reason may be that more negative and intense emotional disclosures are usually interpreted as implying higher intimacy and, accordingly, as too intimate for interactions with strangers (Howell and Conway, 1990). We can thus expect individuals to feel social pressure to present themselves in a more socially desirable manner by withholding negative affect (Dejonckheere and Bastian, 2021). Importantly, the perceived inappropriateness and social undesirability of negative emotions, especially intense ones, is likely to bias survey responses when a stranger administers the questions, but such bias remains empirically unexplored with few exceptions (e.g., Cong et al., 2011). I therefore propose to test the following hypotheses.

H1: The expression of negatively valenced emotions (i.e., anger and fear), particularly intensely negative ones, will be subject to significantly more social desirability bias in interviewer-administered than self-administered survey modes.

H2: The expression of positively valenced emotions (i.e., hope and pride) will not be subject to significantly more social desirability bias in interviewer-administered than self-administered survey modes.

3. Data and empirical strategy

To test these hypotheses, I rely on the 2012 and 2016 ANES. I focus on these surveys in the first instance because they carry several items measuring negative emotions—anger and fear—as well as positive ones—hope and pride—toward the major parties' presidential candidates: Barack Obama and Mitt Romney in 2012, and Hillary Clinton and Donald Trump in 2016.[1] Furthermore, importantly, the ANES collected data in both years based on a two-mode design: interviewer-administered or face-to-face (i.e., FTF; $n = 2,054$ in 2012 and 1,180 in 2016) and self-administered or on the Internet (i.e., Web, $n = 3,860$ in 2012 and 3,090 in 2016).[2] Both studies use national address-based probability sampling but the Web samples stem from different panels and present highly different response rates: the 2012 Internet participants were drawn from the GfK KnowledgePanel with a response rate of 2%, while the 2016 Internet participants were drawn directly by ANES with a response rate of 44% based on AAPOR Response Rate 1.

It is also important to point out that there are significant differences in sample composition between the face-to-face and the online modes in both the 2012 and the 2016 ANES (e.g., Guggenheim et al., 2019). Those differences are likely attributable to differential nonresponse rates

---

[1]See Appendix A for survey question wording.

[2]The study does not include data from 2020, as the ANES did not collect face-to-face responses during the Covid-19 pandemic.

and nonresponse bias (e.g., Hillygus et al., 2017). To address and statistically account for such sample-related mode differences, I have added several control variables to the regression analyses that are likely to be associated with sample differences, including sociodemographics, interest in the campaigns, interest in government and political affairs, and political knowledge. Further, all the analyses employ weights and the regression models in Figures 3–6 rely on design-consistent variance (i.e., Taylor series) estimation to obtain correct standard errors.

4. Results

First, I examine the means of self-reported negative emotions—anger and fear—and positive emotions—hope and pride—by party ID and survey mode (FTF vs. Web). In particular, I analyze negative emotions against the out-party candidate and positive emotions toward the in-party candidate. Figures 1 and 2 display those results for 2012 and 2016, respectively. In 2012 (Figure 1), as expected according to H1, both Democrats and Republicans report feeling largely and significantly ($p < .05$ for Democrats, $p < .01$ for Republicans) angrier—by nearly 7 percentage points and over 8 points, respectively—and significantly ($p < .05$ for Democrats, $p < .001$ for Republicans) more afraid—by over 6 points and over 13 points, respectively—when interviewed online. The same pattern is evident in 2016 (Figure 2), when respondents display overall more intense emotions than four years prior. In the Web mode, Democrats express significantly ($p < .001$) higher levels of both anger—by over 9 percentage points—and fear—by over 10 points—toward Trump, whereas Republicans express significantly ($p < .01$) stronger anger—by about 8 points—and significantly ($p < .05$) stronger fear—by over 7 points—toward Clinton, thus providing further support for H1.

As for positive emotions, H2 receives only partial support. In 2012 (Figure 1), average levels of hope and pride toward Romney are statistically indistinguishable by mode among Republicans.
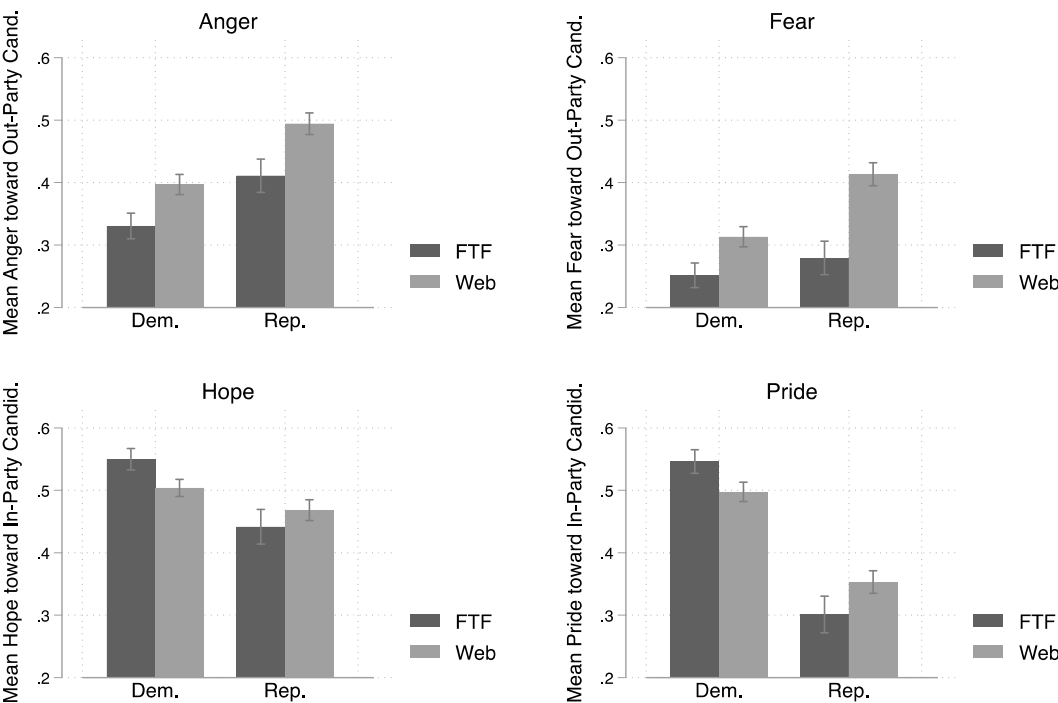

Figure 1. Mean levels of emotions by survey mode in 2012.
The figure shows the means of each emotion by party ID and survey mode. Partisans include leaners. Sample weights applied. Error bars display 95% confidence intervals.
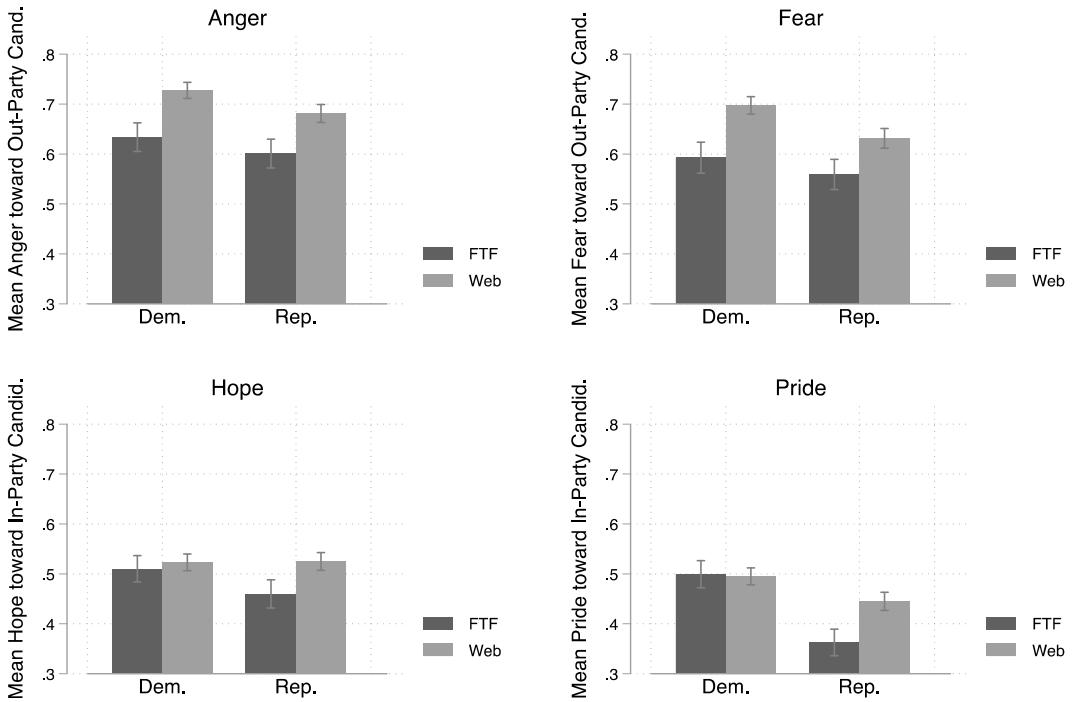
Figure 2. Mean levels of emotions by survey mode in 2016.
The figure shows the means of each emotion by party ID and survey mode. Partisans include leaders. Pre-election weights applied. Error bars display 95% confidence intervals.

However, Democrats report significantly ($p < .05$) higher hope—by nearly 5 percentage points—and higher pride—by about 5 points—toward Obama when interviewed in person. The reverse pattern emerges in 2016. While there is no significant difference by mode in Democrats' hope and pride, Republicans express stronger positive emotions—by almost 7 percentage points ($p < .05$) for hope, and over 8 points ($p < .01$) for pride—toward Trump online. Perceptions of appropriateness can help us interpret these findings. It was likely desirable for Democrats to openly display enthusiasm toward the first African American president and Democratic incumbent in 2012. On the contrary, expressing enthusiasm toward a candidate whose statements and behaviors were often characterized as racist and sexist during the 2016 campaign may have exposed Republicans to discomfort in front of an interviewer.

Next, I estimate the association between survey mode and intensity of self-reported emotions while controlling for gender, race, ethnicity, age, education, household income, campaign interest, political interest, and political knowledge.[3] Figures 3 and 4 display coefficients from OLS models in which the dependent variables are the four emotions—anger and fear toward the out-party candidate, and hope and pride toward the in-party one—experienced by partisans in 2012 and 2016, respectively.

Across both years and parties, the Web mode is positively and significantly associated with acknowledging stronger negative emotions, as predicted by H1. Specifically, taking the survey on the Internet translates into Democrats reporting more anger by 6 percentage points ($p < .01$) and fear by 5 points ($p < .01$), and Republicans reporting more anger by 8 points ($p < .001$) and fear by 12 points ($p < .001$) in 2012. A similar pattern is present in 2016: when interviewed online, Democrats appear 10 percentage points ($p < .001$) angrier and 12 points ($p < .001$) more afraid, while Republicans admit to being 6 points ($p < .01$) angrier and 6 points ($p < .01$) more afraid.

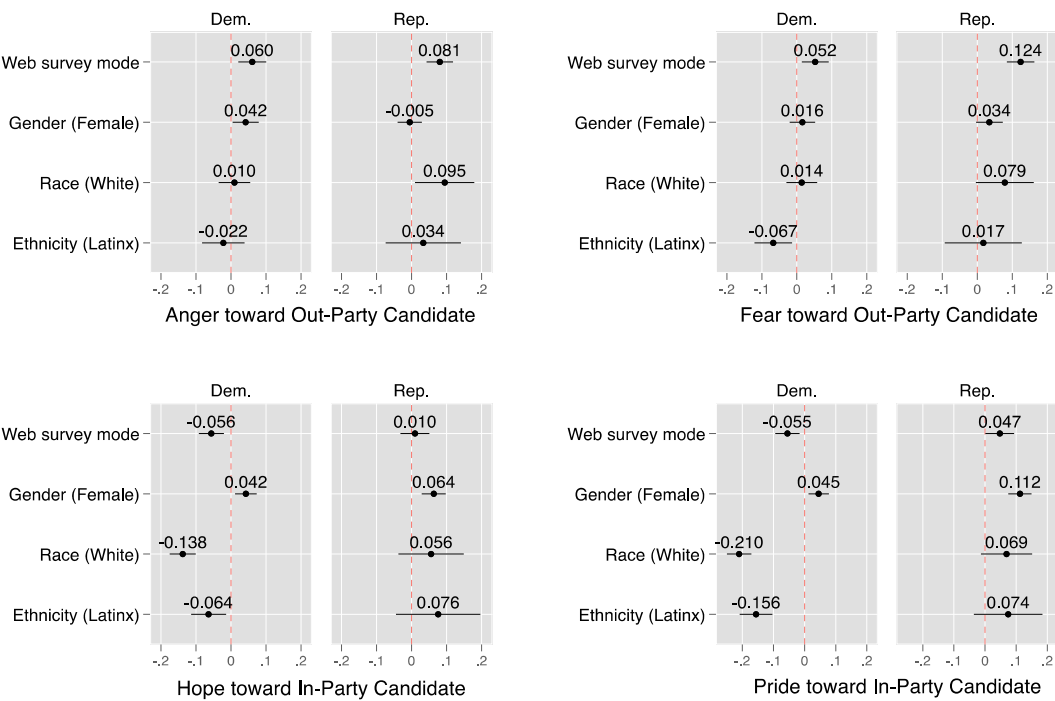[3]See Appendix B for full regression results.

Figure 3. Predicting emotions toward presidential candidates by survey mode in 2012.
The figure shows regression coefficients by party ID from OLS models including controls. Partisans include leaners. Sample weights applied. Error bars display 95% confidence intervals.

The results related to positive emotions are overall consistent with Figures 1–2. In 2012 (Figure 3), survey mode is a significant predictor of hope and pride levels expressed by Democrats, and only pride by Republicans. Specifically, being interviewed in person is associated with reporting more intense hope by 6 percentage points ($p < .01$) and pride by 5 points ($p < .01$) toward Obama among Democrats. Although this runs counter to H2, it suggests that Democratic voters likely deemed it socially desirable to display enthusiasm toward Obama in front of an interviewer. On the other hand, in 2016 (Figure 4), survey mode significantly predicts stronger positive emotions among Republicans, but not among Democrats. Self-administration is associated with Republicans expressing more hope by 6 percentage points ($p < .01$) and pride by 8 points ($p < .001$) toward Trump. In other words, Republicans' positive emotions in 2016 mirror, in reverse, those of Democrats in 2012: they likely expected to face disapproval by expressing intense enthusiasm toward Trump in an in-person setting.

As a robustness check, I have conducted the same analyses by measuring the dependent variables—self-reported anger, fear, hope, and pride—as the average of each emotion reported toward both presidential candidates (see Appendix C). The results remain largely consistent.

Furthermore, I examine whether the impact of emotions varies by survey mode. Figures 5 and 6 show the marginal effect of emotions by mode from logit regression models among Democrats (left panels) and Republicans (right panels) on five campaign engagement activities in both election years.[4] Similarly to how campaign participation is measured in Oceno and Morell (2024), the dependent variables include five items asking respondents if they engaged in the following activities: (1) "talk to any people and try to show them why they should vote for or against one of the parties or candidates" (i.e., persuade others); (2) "go to any political meetings, rallies, speeches, dinners, or things

---

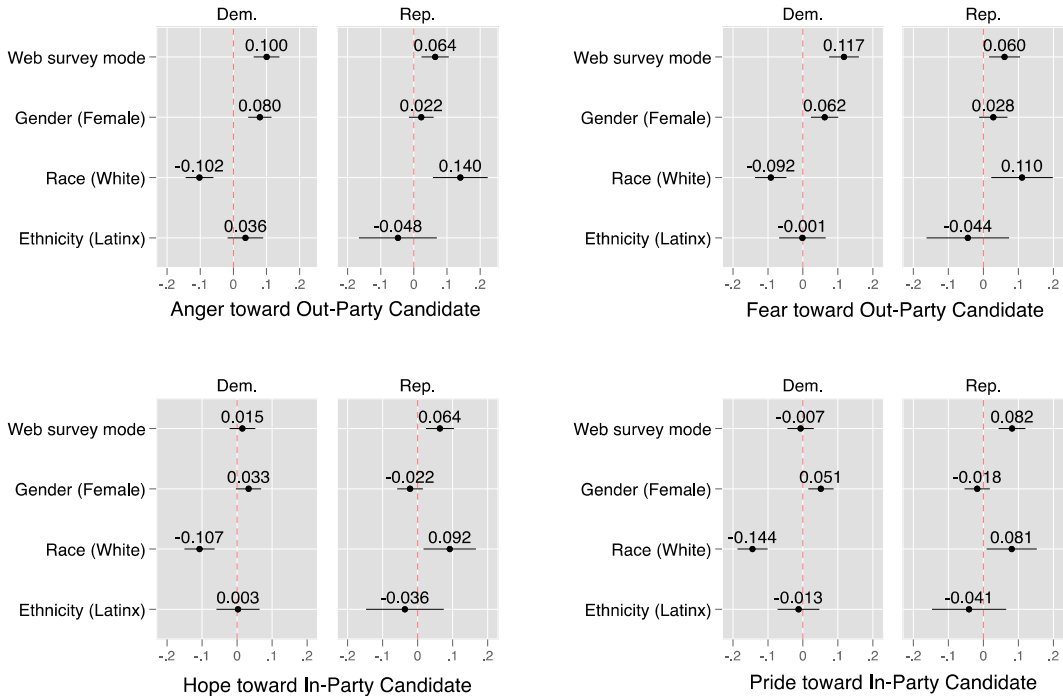[4]See also Appendix B for full regression results.

Figure 4. Predicting emotions toward presidential candidates by survey mode in 2016.
The figure shows regression coefficients by party ID from OLS models including controls. Partisans include leaders. Pre-election weights applied. Error bars display 95% confidence intervals.

like that in support of a particular candidate" (i.e., attend a rally); (3) "wear a campaign button, put a campaign sticker on your car, or place a sign in your window or in front of your house" (i.e., display a sign); (4) "do any (other) work for one of the parties or candidates" (i.e., volunteer); and (5) "give money to an individual candidate running for public office" (i.e., donate). In either 2012 (Figure 5) or 2016 (Figure 6), there are generally no significant mode differences in the marginal effect of emotions on campaign engagement except for Republicans' hope on displaying a sign and pride on volunteering in 2012, and Republicans' anger and fear on persuading others in 2016.

5. Discussion

The political implications of emotions have recently received widespread scholarly attention. As this line of research becomes increasingly popular, it is important to better understand how effectively self-reports can capture emotions. My analyses show that, in both 2012 and 2016, participants reported significantly less intense negatively valenced emotions—anger and fear—when interviewed face-to-face as compared to online, thus suggesting that they tend to conceal negative emotional states that may be judged as socially inappropriate, whether in kind or intensity (e.g., Shields, 2005; Kleef et al., 2022). Moreover, Democrats reported significantly stronger positive emotions—hope and pride—in person in 2012, while Republicans reported significantly less hope and pride in the face-to-face mode in 2016. While underreporting due to social desirability bias has been studied in relation to a broad set of sensitive questions (e.g., Bryn et al., 2016), these findings suggest that survey items that tap into emotions may be also perceived as 'sensitive,' particularly when emotions are elicited in an interpersonal setting (i.e., with an interviewer present). Furthermore, although reports of negative emotions tend to exhibit larger social desirability bias, the expression of positive emotions is not exempt from perceived risks of social sanctions and, consequently, biased reporting. Nonetheless,
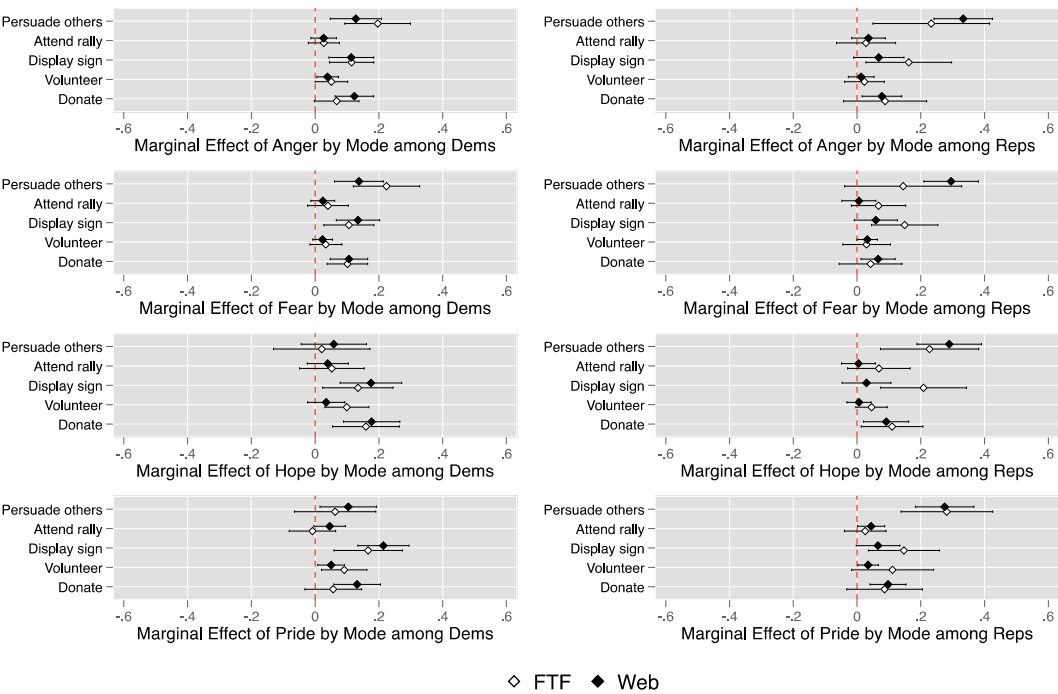
Figure 5. Marginal effects of emotions by mode on campaign engagement in 2012.
Dependent variables on the *y*-axis. All estimates come from logit regression models including controls. Partisans include leaners. Sample weights applied. 95% confidence intervals shown.

the analyses show that, overall, there are no significant differences by mode in the marginal effect of emotions on campaign engagement activities in 2012 or 2016.

This research contributes to enhancing our understanding of how interview mode can lead to significant underestimation of individuals' actual emotional predispositions due to social desirability pressures. A key lesson is that self-administration significantly reduces social desirability bias and tends to yield more accurate estimates, as compared to interviewer-administration. Relatedly, these findings warrant caution about measuring emotions by combining data across face-to-face and Web modes. In fact, combining survey items with identical wordings but from different interview modes is likely to create unreliable estimates. The way in which social scientists collect their data is, therefore, a crucial aspect of their ability to test theories and hypotheses about the salience of emotions in society and politics.

An important question raised by this research is how the observed social desirability effects may be related to rising levels of affective polarization within the American electorate. My results suggest that expressing polarized negative feelings toward out-party candidates, particularly with a stranger, tends to still be perceived as non-normative. However, respondents may be more inclined to share polarized emotions with interviewers when it comes to positive affect toward some in-party candidates, such as Obama in 2012.

Another question that this study leaves open is how the cultural context may influence emotional expressivity (e.g., Salvador et al., 2023). More work is needed to investigate the role played by survey mode effects and social desirability bias within cultures outside the United States, which may be characterized by differing norms and styles of expressing socially engaging or interdependence-oriented vs. disengaging or independence-oriented emotions. Finally, future research should examine whether socially desirable reporting tends to be exhibited consistently by the same individuals,
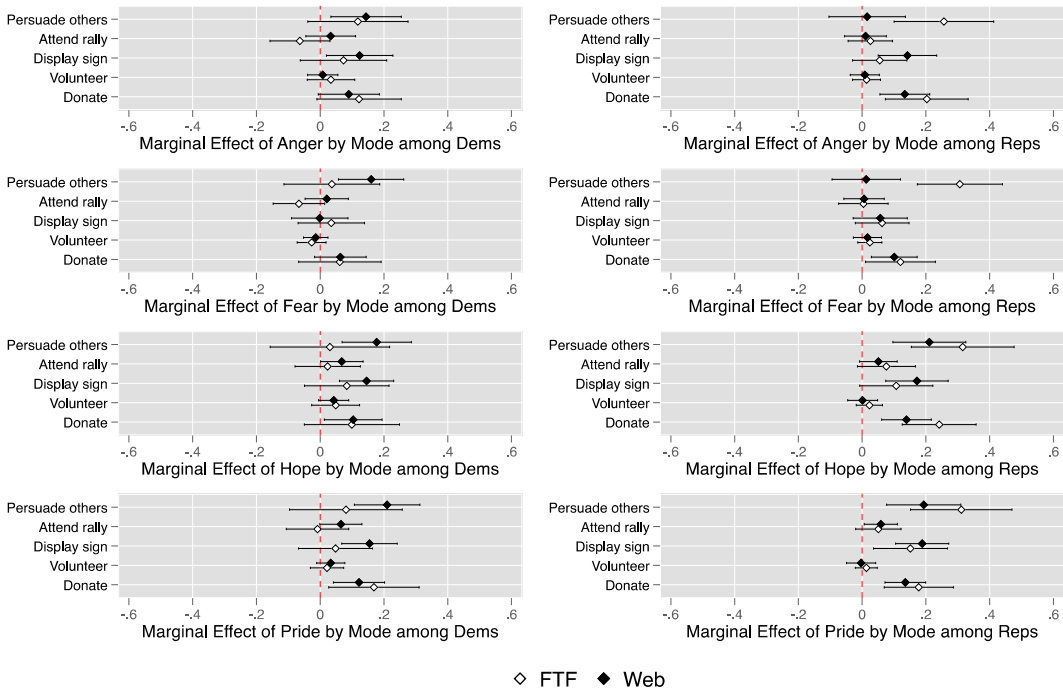
Figure 6. Marginal effects of emotions by mode on campaign engagement in 2016.
Dependent variables on the *y*-axis. All estimates come from logit regression models including controls. Partisans include leaners. Post-election weights applied. 95% confidence intervals shown.

namely whether there is an individual-level association among socially desirable reports of political attitudes and behaviors and those of emotions.

Supplementary material. The supplementary material for this article can be found at https://doi.org/10.1017/psrm.2025.10016. To obtain replication material for this article, please visit https://doi.org/10.7910/DVN/0GCD1H.

Competing interests. The author(s) declare no competing interests.

References

Abrajano M, and Alvarez RM (2018) Answering questions about race: How racial and ethnic identities influence survey response. *American Politics Research* **47**, 250–274.

Adam H, and Brett JM (2018) Everything in moderation: The social effects of anger depend on its perceived intensity. *Journal of Experimental Social Psychology* **76**, 12–18.

Albertson B, and Gadarian SK (2015) *Anxious Politics: Democratic Citizenship in a Threatening World*. New York: Cambridge University Press.

Atkeson LR, Adams AN, and Alvarez RM (2014) Nonresponse and mode effects in self- and interviewer-administered surveys. *Political Analysis* **22**, 304–320.

Caltabiano ML and Smithson M (1983) Variables affecting the perception of self-disclosure appropriateness. *The Journal of Social Psychology* **120**, 119–128.

Chang L and Krosnick J (2009) National surveys via RDD telephone interviewing versus the internet: Comparing sample representativeness and response quality. *Public Opinion Quarterly* **73**, 641–678.

Chang L and Krosnick J (2010) Comparing oral interviewing with self-administered computerized questionnaires: An experiment. *Public Opinion Quarterly* **74**, 154–167.

Dejonckheere E, and Bastian B (2021) Perceiving social pressure not to feel negative is linked to a more negative self–concept. *Journal of Happiness Studies* **22**, 667–679.

Epstein JF , Barker, PR, and Kroutil LA (2001) Mode effects in self-reported mental health data. *Public Opinion Quarterly* **65**, 529–549.

Guggenheim L, McClain C, Nardis Y, and Brader T. 2019. "Comparing face-to-face and web modes in the ANES 2016 time series study." *ANES Mode Report* (accessed 7 October, 2024). https://electionstudies.org/wp-content/uploads/2019/09/ANES2016_ModeReport.pdf.

Heerwegh D (2009) Mode differences between face-to-face and web surveys: An experimental investigation of data quality and social desirability effects. *International Journal of Public Opinion Research* **21**, 111–121.

Hillygus DS, Valentino NA, Vavreck L, Barretto M, and Layman G. 2017. "Assessing the implications of a mode change." *ANES Board Report* (accessed 7 October, 2024). https://electionstudies.org/wp-content/uploads/2021/08/anes_board_2017_mode_report.pdf.

Holbrook AL, Green MC and Krosnick J (2003) Telephone versus face-to-face interviewing of national probability samples with long questionnaires. *Public Opinion Quarterly* **67**, 79–125.

Holbrook AL and Krosnick J (2010) Social desirability bias in voter turnout reports: Tests using the item count technique. *Public Opinion Quarterly* **74**, 37–67.

Howell A and Conway M (1990) Perceived intimacy of expressed emotion. *The Journal of Social Psychology* **130**, 467–476.

Kreuter F, Presser S, and Tourangeau R (2008) Social desirability bias in CATI, IVR, and web surveys: The effects of mode and question sensitivity. *Public Opinion Quarterly* **72**, 847–865.

Krumpal I (2013) Determinants of social desirability bias in sensitive surveys: A literature review. *Quality and Quantity* **47**, 2025–2047.

Krysan M (1998) Privacy and the expression of white racial attitudes: A comparison across three contexts. *Public Opinion Quarterly* **62**, 506–544.

Liu M, Conrad FG, and Lee S (2017) Comparing acquiescent and extreme response styles in face-to-face and web surveys. *Quality and Quantity* **51**, 941–958.

Liu M, and Wang Y (2015) Data collection mode effect on feeling thermometer questions: A comparison of face-to-face and web surveys. *Computers in Human Behavior* **48**, 212–218.

Oceno M, and Morell S (2024) Toeing the party line: The asymmetric influence of feminism on partisans' participation. *British Journal of Political Science* **54**, 917–927.

Omarzu J (2000) A disclosure decision model: Determining how and when individuals will self-disclose. *Personality and Social Psychology Review* **4**, 174–185.

Phoenix DL (2019) *The Anger Gap: How Race Shapes Emotion in Politics*. New York: Cambridge University Press.

Rosenfeld B, Imai K, and Shapiro JN (2016) An empirical validation study of popular survey methodologies for sensitive questions. *American Journal of Political Science* **60**, 783–802.

Salvador CE, Idrovo Carlier S, Ishii K, Torres Castillo C, Nanakdewa K, San Martin A, Savani K, and Kitayama S (2023) Emotionally expressive interdependence in Latin America: Triangulating through a comparison of three cultural zones. *Emotion* **24**, 820–835.

Shields SA (2002) *Speaking from the Heart: Gender and the Social Meaning of Emotion*. New York: Cambridge University Press.

Shields SA (2005) The politics of emotion in everyday life: "Appropriate" emotion and claims on identity. *Review of General Psychology* **9**, 3–15.

Smith TW (1998) A review of church attendance measures. *American Sociological Review* **63**, 131–136.

Tourangeau R, Rips LJ, and Rasinsky K (2000) *The psychology of survey response*. New York: Cambridge University Press.

Tourangeau R and Yan T (2007) Sensitive questions in surveys. *Psychological Bulletin* **133**, 859–883.

Turnley WH, and Bolino MC (2001) Achieving desired images while avoiding undesired images: Exploring the role of self-monitoring in impression management. *Journal of Applied Psychology* **86**, 351–360.

Valentino NA, Wayne C, and Oceno M (2018) Mobilizing sexism: The interaction of emotion and gender attitudes in the 2016 presidential election. *Public Opinion Quarterly* **82**(S1), 799–821.

Van Kleef GA , and Côté S (2022) The social effects of emotions. *Annual Review of Psychology* **73**, 629–658.

Villarroel MA, Turner CF, Eggleston E, Al-Tayyib A, Rogers SM, Roman AM, Cooley PC and Gordek H (2006) Same-gender sex in the United States: Impact of T-Acasi on prevalence estimates. *Public Opinion Quarterly* **70**, 166–196.

Villarroel MA, Turner CF, Rogers SM, Roman AM, Cooley PC, Steinberg AB, Eggleston E, and Chromy JR (2008) T-ACASI reduces bias in STD measurements: The national STD and behavior measurement experiment. *Sexually Transmitted Diseases* **35**, 499–506.

Waterloo SF, Baumgartner SE, Peter J and Valkenburg PM (2018) Norms of online expressions of emotion: Comparing Facebook, Twitter, Instagram, and WhatsApp. *New Media & Society* **20**, 1813–1831.

Webster SW (2020) *American Rage: How Anger Shapes Our Politics*. New York: Cambridge University Press.

Webster SW and Albertson B (2022) Emotion and politics: Noncognitive psychological biases in public opinion. *Annual Review of Political Science* **25**, 401–418.

Ye C, Fulton J, and Tourangeau R (2011) More positive or more extreme? A meta-analysis of mode differences in response choice. *Public Opinion Quarterly* **75**, 349–365.