Supplementary Materials for

Conservatives report, but liberals display, greater happiness

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This PDF file includes:

Materials and Methods
References
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Study 1

Participants were 1,433 visitors to YourMorals.org (45% female, mean age = 40.2). Visitors were included in Study 1 if they reported their political ideology at registration and subsequently completed the Satisfaction With Life Scale (5) and the Balanced Inventory of Desirable Responding (BIDR) (22). The Satisfaction With Life Scale is one of the most widely used measures of subjective well-being, consisting of five face valid Likert-style questions (e.g., “The conditions of my life are excellent”; 1 = “Strongly disagree”, 7 = “Strongly agree”). The BIDR measures two underlying components of unrealistically positive self-reporting styles. Its Impression Management subscale assesses deliberately distorted self-assessments related to self-presentation concerns, and its Self-Deceptive Enhancement subscale assesses honestly believed, but unrealistically favorable self-assessments. We were primarily interested in the latter scale because it has been used to predict inflated reports of subjective well-being in past research (13). Political ideology was coded on a 7-point Likert scale (1 = “Very liberal”, 7 = “Very conservative”; additional options available for libertarians and others). Due to our interest in liberal-conservative differences, those who did not identify along the liberalism-conservatism scale were excluded from analyses.

Study 2

Linguistic analysis. We used the application programming interface (API) of CapitolWords.org, an online service that streamlines the acquisition of word use frequency data from the U.S. Congressional Record, to tally the frequency with which politicians used positive and negative emotion words in 2013, which was the most recent year for which full data were available. The CapitolWords service is provided free of charge by the Sunlight Foundation, a non-profit organization providing online resources to promote government transparency. We gathered word count data for each individual appearing in the Congressional Pictorial Directory for the 113th Congress (28), including 100 Senators and 433 Representatives (mean age = 58.1, 17.5% female; 2 Congressional Seats were vacant at the time of the directory’s publishing). Demographic information for each participant was gathered from publicly available information found online. We assessed political ideology with a continuous liberalism-conservatism score based on each politician’s voting record. These scores were gathered from a popular independent political legislation blog’s “legislative scorecards” (27) and transformed so that they ranged from -10 to +10, with higher scores indicating increasingly conservative voting records. Voting record scores were available for all but four of the politicians in our 2013 analysis.

We recorded word use frequencies for relevant items from the Positive and Negative Affect Schedule: Expanded Form (PANAS-X) (26), which has been used to predict meaningful outcomes in previous linguistic analyses (33). Due to the API’s inability to process word stems, regular expressions, and wildcard characters, use of Linguistic Inquiry Word Count (LIWC) (30) emotion dictionaries (which contain hundreds of items requiring wildcard characters; e.g., hap* and joy*) was not feasible in Study 2. We recorded word use frequencies for each politician using four PANAS-X subscales, including its positive affect, negative affect, joviality, and sadness subscale.
items. To provide a more exhaustive linguistic analysis, we included alternate forms of each PANAS-X item in our searches (e.g., for happy, we also included happily, happiness, happier, and happiest) and excluded the word “blue”, due to its predominantly non-emotional and potentially political use in this context. We also recorded a control variable that approximated each politician’s overall wordiness, by recording the frequency with which each politician used the 10 most common words in the English language (the, be, to, of, and, a, in, that, have, I). This step was necessary because the CapitolWords API does not provide the total sum of all words used by a particular politician or party. This is why Study 2 results are not presented as the percentage of total words used by each politician. This wordiness index accounted for 2,336,370 total words, or approximately 14% of all words appearing in the Congressional Record in 2013.

The primary linguistic analysis for Study 2 (described above) assessed emotional language at the individual level. For our extended analysis of emotional word use over time, we used the CapitolWords API to collect word counts at the party-level using the same lists of positive and negative emotion words described above. For each year that complete Congressional Record data were available (1996-2013), separate word counts were collected for the Democratic and Republican Parties. This extended analysis investigated party-level emotional word use, rather than individual-level word use because of the prohibitive difficulty in acquiring comprehensive voting record analysis, demographic data, and word count data for every Congressperson during this 18-year period of time.

Smiling behavior. Photos of each politician were gathered from the Congressional Pictorial Directory of the 113th Congress (28), an official, public domain publication containing color photos of each Congressperson. Because politicians’ photographs for the Directory are updated irregularly, photos appearing in this edition of the Directory were not necessarily taken during or immediately prior to the current congressional term.

Smiling behavior was analyzed using the Facial Action Coding System (FACS) (29) by a FACS-certified coder. FACS is a reliable, anatomically based coding system that identifies facial muscle movements, termed action units (AUs), relevant to the expression of emotion. A certified FACS coder who was blind to the hypothesis and political affiliations of the participants analyzed the occurrence and intensity of two AUs associated with smiling behavior: activity in the orbicularis oculi (AU6) and the zygomatic major (AU12). Action units were coded using separate 6-point intensity scales, with higher scores indicating more intense facial activation, including a zero-point to indicate no activation. To test reliability, a second coder analyzed a random subset (20%) of the photos. The intraclass correlation coefficient indicated acceptable inter-rater reliability for AU6 (ICC = .70) and AU12 (ICC = .79).

Study 3

Because Twitter does not provide publicly available political ideology information for its users, we used the service’s API to identify 6,000 participants who subscribed to (“followed”) the official Twitter pages for the Democratic Party (n = 3,000) and the Republican Party (n = 3,000). We excluded 1,794 users who either had not posted status updates or whose status updates were protected by privacy settings, plus an additional 260 users who appeared in both lists. This resulted in a total of 1,950 exclusive
followers of the Democratic Party and 1,996 exclusive followers of the Republican Party who posted publicly viewable status updates. We analyzed the 20 most recent status updates from each user (or all available statuses from users with fewer than 20 statuses), excluding “retweets”, or shared content that was originally written by other users. In total, we analyzed 47,257 public status updates ($M = 11.98$ per user) containing 585,614 words ($M = 12.39$ per status update). Data were collected in May 2014. Approximately 89% of the collected updates were published in January 2014 through May 2014. The remaining status updates dated as far back as 2008.

We assessed the emotional content of each tweet using the PANAS-X word lists described in Study 2, in addition to the positive and negative emotion dictionaries provided by the LIWC software. The LIWC word lists are longer and more comprehensive than the PANAS-X lists, were designed specifically for use in linguistic analyses, and have been validated multiple times (30). We also created separate indices of the frequency with which “happy” and “sad” emoticons appeared in the status updates [happy: :) :-): ); sad: :( : ( ]. PANAS-X and LIWC analyses were limited to status updates written in English, as assessed by the R software’s Compact Language Detection in R (CLDR) package, and emoticon usage was assessed across all languages.

Study 4

Participants were 504 users of LinkedIn, a business-oriented social networking website. LinkedIn profile photos are typically clear, professional quality photographs of individuals who are looking straight into the camera and smiling. We selected participants who publicly self-identified as employees at four organizations associated with ideologically liberal values (the Democratic National Committee, MSNBC, the New York Times, Planned Parenthood) and four organizations associated with ideologically conservative values (the Republican National Committee, Fox News Channel, the Wall Street Journal, and the Family Research Council). We analyzed the publicly available profile photos from up to 100 employees listed for each employer, resulting in 267 photos of liberal organization employees and 237 photos of conservative organization employees. Of these, we excluded 47 photos that were of low resolution or too small to be seen clearly, that contained multiple people, or that did not clearly show participants’ faces, resulting in a total of 457 photos (240 liberals, 217 conservatives). Detailed demographic information was not available, but coders estimated that 57% of participants were female and 77% were White. As in Study 2, a FACS-certified coder who was blind to the hypothesis and ideology of participants analyzed the smiling behavior in each photograph along AUs 6 and 12. A second coder analyzed a random subset (20%) of the photos to test reliability, achieving acceptable inter-rater reliability for both AU6 ($ICC = .81$) and AU12 ($ICC = .89$).
References


6. The term “subjective well-being” is used interchangeably with “happiness” and consists of life satisfaction, positive and negative affect, and domain satisfaction (7).


17. Political ideology is a complex and nebulous construct that is most frequently operationalized in this literature using self-report measures of ideology, party affiliation, or scores on psychological constructs associated with self-reported conservatism such as authoritarianism and social dominance orientation \((4, 20)\). The meaning ascribed to terms like “liberal,” “progressive,” and “conservative” also varies over time and across national contexts. Given this conceptual complexity, we have restricted our analyses to U.S. samples where possible and tested our effects across multiple operationalizations of liberalism-conservatism, including self-identified ideology (study 1) and party affiliation (study 2), but also using behavioral measures such as congressional voting records (study 2), social media subscriptions (study 3), and involvement with liberal and conservative organizations (study 4).


