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Historical changes in American self-interest: State of the Union addresses 1790 to 2012[☆]

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ABSTRACT

Many psychological theories of morality suggest that satisfying our own self-interest motives and desires at the expense of others is the default condition in early childhood development, but that humans eventually learn to behave selflessly in the interest of others. Recent research examining societal increases in traits related to self-interest (e.g., narcissism) in the US finds increases in such traits over the past 30 years. The current study examined changes in self-interest from 1790 through 2012 using presidential State of the Union addresses. Self-interest (relative to interest in others) was low during the 19th century but rose after the turn of the 20th century.

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1. Introduction

Many psychological theories of morality suggest that satisfying our own self-interested motives and desires at the expense of others is the default condition in early childhood development, but that we can learn to behave selflessly in the interest of others as we grow into adulthood. Evolutionary biologist Richard Dawkins suggests in his book *The Selfish Gene* that we are all “born selfish” and so we must learn to become altruistic (Dawkins, 1976). In Kohlberg’s (1985) stages of moral development, individuals begin with an orientation towards self-interest, but eventually understand broader social contracts. Yet, self-interest still motivates much of adult cognition and behavior, at least within Western cultural contexts (Heine, Lehman, Markus, & Kitayama, 1999). Thus, changes in self-interest over time are important to document.

The current study examines change in indicators of self-interest in American society from 1790 through 2012. A number of studies have found increases in self-related traits and concepts in the US

since the late 1960s. For example, positive self-evaluation statements increased among college students from 1966 to 2009 (Twenge, Campbell, & Gentile, 2011). Researchers have also tracked changes in other personality traits and constructs, discovering recent increases in narcissism (Twenge, Konrath, Foster, Campbell, & Bushman, 2008), self-esteem (Gentile, Twenge, & Campbell, 2010), agentic traits (Twenge, 1997), and simultaneous decreases in empathy (Konrath, O’Brien, & Hsing, 2011). This suggests that self-interest might be increasing over time among Americans.¹

Such patterns can also be measured at the broader cultural level—in the products that a given culture creates and consumes (e.g., songs, newspapers, books, speeches; Lamoreaux & Morling, 2012; Morling & Lamoreaux, 2008). It is important to study trends in cultural products that reflect societal-level preoccupation with self-interest rather than merely examining changes at the individual-level. Cultural products are more appropriate for studying

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¹ The claim that traits related to self-interest (e.g., narcissism) may be rising has roused considerable academic debate, with some researchers arguing that they have remained stagnant over time (e.g., Trzesniewski & Donnellan, 2010). These concerns have been addressed elsewhere, for example, by showing that their samples consist solely or primarily of students from UC Davis, who score unusually low on narcissism. When campus is controlled, or data are examined within campus, narcissism levels indeed show significant increases over time (e.g., Twenge & Foster, 2010). Thus, the current paper rests on the assumption that the overarching evidence currently favors an increase.

societal norms and beliefs given the limitations of self-reported personality measures, in terms of both measurement and predictive ability (Nisbett & Wilson, 1977; Schwarz, 1999). Thus, cultural-level indicators may help to reveal societal norms and beliefs that self-reported personality measures cannot. Individual-level measures also fail to capture how cultural products—the things and artifacts that a culture produces—can enhance our understanding of culture and cultural change (Snibbe & Markus, 2005). Moreover, examining changes in cultural products enables researchers to use a broader scope in assessing psychological change over time.

Studies assessing changes in cultural products related to self-interest have found similar patterns as individual-level studies. For example, in a study of 15 million books published between 1900 and 2000, Konrath and Anderson (2011) discovered an increase in the number of books mentioning the word “self-esteem” across the century. There have also been increases at the broader cultural-level in references to the self and in individualistic phrases, in both books (from 1960 to 2008; Twenge, Campbell, & Gentile, 2012a) and popular songs (from 1980 to 2007; DeWall, Pond, Campbell, & Twenge, 2011). There is also evidence for an increase in individualistic phrases (“all about me”) in books from 1960 to 2008 (Twenge, Campbell, & Gentile, 2012b).

Despite such consistent increases in self-references in cultural products, the evidence is much less clear for how *other-oriented* references have changed over time. Additionally, due to ambiguity in researchers’ definition of “others,” other-oriented references often confound self-interest and other-interest, making it unclear if changes over time are attributable to an increase in self-interest or other-interest. For example, some studies treat the word “we” as strictly other-oriented, when by definition “we” represents the interests of both “me” and “you” together. There is a difference, for example, in saying “We won the game,” which implies some personal responsibility and credit, compared to “They lost the game,” which implies no personal responsibility (Cialdini et al., 1976).

Regardless of this inaccurate operationalization of other-orientation, the results with respect to “we” are inconsistent. In some studies, first-person plural references (e.g., “we”) decreased over time (DeWall et al., 2011; Twenge et al., 2012a), whereas in another study, communal phrases (e.g., “all in this together”) increased in books from 1960 to 2008 (see Study 2; Twenge et al., 2012b). The patterns of change in pure other-interest (i.e. no self-involvement), as operationalized by second- (e.g., “you”), and third-person references (e.g., “he;” “they”), are also inconsistent. One study reports decreases in *all* third-person pronouns (Twenge et al., 2012a), another study reports only decreases in *some* third-person pronouns (“he”, “himself”), but not others (“she”, “herself”; Twenge, Campbell, & Gentile, 2012c), and another study finds *no changes* at all (DeWall et al., 2011).

Very few studies examine changes in other types of extreme other-interest in cultural products (e.g. second-person pronouns such as “you,” and mentions of family and friends). The rare studies that have examined changes in second-person pronouns demonstrate patterns in opposite directions, depending on how they are analyzed (see Twenge et al., 2012a). When second-person plural pronouns are analyzed separately, they increase over time. However, when these pronouns are lumped with second-person singular pronouns in regression models, second-person pronouns now *decrease* over time. Mentions of family and friends have also been lumped into one category of “social” references (DeWall et al., 2011), which again obscures the conclusions that can be drawn about changes in self versus other-interest over time. Family members are more closely tied to self-interest than friends are, given their genetic overlap with the self, and their potential to

increase reproductive success (Hamilton, 1964). In other words, self-interest is therefore a matter of degree, and not binary.

Taken together, there is evidence for an increase in self-interest words and phrases, but the patterns with respect to other-interest needs additional research. Moreover, all individual-level (i.e. trait-based) studies have examined changes beginning no earlier than the 1960s, since many personality scales were not developed until then. Yet, it is unclear why researchers examining cultural-level indicators of self-interest have limited their investigation to such narrow time periods and criteria, given the longer-term availability of cultural-level data. In addition, many of the individual-level studies rely on self-report data, which, while revealing some useful information about people’s conscious thoughts, suffer from social desirability biases (Schwarz, 1999) and other interpretation issues. Another limitation in meta-analyses of trait-level characteristics (e.g., Twenge & Foster, 2010) is an overreliance on college student samples, which do not necessarily reflect the broader American population.

1.1. The current study

In the current study, we replicate and extend prior research examining changes in self-interest and other-interest over time. Although some of this work uses meta-analyses to examine individual-level personality changes (Twenge et al., 2008), other work focuses on cultural products like songs and phrases in books (DeWall et al., 2011; Konrath & Anderson, 2011). Psychological research on songs and books are important, but both tend to suffer from publication delays, making it unclear whether the finished product represents the year of publication or release. Moreover, to date, these analyses have confounded self-interest with other-interest in their choices of relevant terms (e.g. pronouns). Finally, most examinations of secular trends in self-interest have limited their scope to the time period after 1960 (Gentile et al., 2010; Twenge et al., 2012b), which makes it difficult to know if self-interest has been rising for longer historical periods or if there are instead recurring cyclical changes over time within US culture.

The current study addresses some of these research gaps by using presidential State of the Union speeches to gauge cultural-level self-interest. We define self-interest in the current study as the preoccupation with one’s own interests and circumstances and a relative indifference to the interests of others. In other words, high self-interest occurs when an individual’s interests are prioritized over the interests of others. The State of the Union address is an annual speech given by the President of the United States that outlines the current status and priorities of the country for the upcoming year. These speeches often propose legislation and goals that change the course of the nation dramatically. They arguably serve the function of a societal thermometer of US culture at any given time and outline the focus of the country in the immediate future. State of the Union addresses are intended to represent American culture quite broadly and also allow us to extend the time period for which we can examine temporal changes in self-interest to a full 222 years (1790–2012), which is the longest period to date.

One limitation of previous research is that temporal changes are often presented without a longer-term context. Yet this context is important because it can demonstrate the general trajectory of the culture over time. For example, perhaps the recent increases in self-interest are actually a return to previously-experienced levels of self-interest, rather than continuous increases. In other words, perhaps American society has gone through temporary “epochs” or periods of relatively high and low self-interest, where self-interest wanes and oscillates at different time points.

Table 1
Multiple regression analyses predicting year of speech.

Predictors	Type	<i>b</i>	SE	β	<i>t</i>
First-person singular pronouns	Pure self-interest	10.64	2.72	0.16	3.91*
Mentions of family	Moderate self-interest	18.42	3.12	0.28	5.90*
First-person plural pronouns	Moderate self-interest	39.95	3.04	0.57	12.15*
Other-person pronouns	Pure other-interest	−29.24	4.26	−0.28	−6.86*
Mention of friends	Pure other-interest	−11.30	2.70	−0.17	−4.19*

$F(5, 225) = 116.57, p < .001$.

* $p < .001$.

In the current study, we also introduce the *Egocentricity Index*, which may be used by other researchers as an objective and long-term measure of self-versus other-focus over time in the US.

2. Method

To explore changes in self- versus other-interest in state of the union addresses over time, we obtained text of the 226 speeches² every year from 1790 through 2012 from Woolley and Gerhard's American Presidency Project (<http://www.presidency.ucsb.edu>).

Linguistic analyses were performed using the LIWC program (Pennebaker, Booth, & Francis, 2007), a well-validated computer program that yields the percentage of words in a selection of text that correspond to various categories. The program uses an internal dictionary of several word categories corresponding to how much a group of words (e.g., mother, father, son, daughter) relate to a particular topic (e.g., family). The LIWC word categories have reasonable psychometric properties (Pennebaker et al., 2007). Previous studies on temporal changes in self-relevant words and phrases usually restrict their list of words to a few select pronouns (Twenge et al., 2012a). In the current study, all personal pronouns were included as well as mentions of individuals most closely related to one's self-interest (family) and mentions of individuals more peripheral to one's self-interest (friends). In all, we chose categories that served as appropriate proxies of pure self-interest (e.g., I, me), moderate self-interest (e.g. us, we, family) and pure other-interest (e.g., you, she, he, they, friends). Below is the specific rationale for the grouping of words and pronouns under these indices.

2.1. Pure self-interest

2.1.1. First-person singular pronouns

First-person singular pronouns (e.g., "I", "me", "mine") were considered the clearest references to the self and one's self-interest. The inclusion of these words was also informed by the associations between first-person singular pronouns and their relationship to other indicators of self-interest (Twenge et al., 2012a), including a higher usage rate among narcissists (Raskin & Shaw, 1988). For example, Raskin and Shaw found a positive correlation between scores on the Narcissistic Personality Inventory and spontaneous first-person pronoun usage in 5-min monologues on any topic of participants' choosing. Scherwitz, Graham, Grandits, Buehler, & Billings, 1986 also operationalize "self-involvement" as the use of first-person pronouns in their studies of Type A behavior and coronary heart disease. Thus, traits related to self-interest are associated with the spontaneous use of personal pronouns.

² Earlier in American history, it was not uncommon for multiple addresses to be held within a given year, hence the greater number of speeches than years.

2.2. Moderate self-interest

2.2.1. Family references

Family references (e.g., daughter, husband) were included in self-interest for many of the same reasons as first person plural pronouns. Self-interest in the evolutionary sense usually focuses on individuals with whom we have the closest genetic ties since they can help to increase our evolutionary fitness (Hamilton, 1964).

2.2.2. First-person plural pronouns

First-person plural pronouns (e.g., "we", "us", "our") were included in the *Egocentricity Index* based on research showing that the collective success of those who share our interests is an important element of self-interest, especially when individuals feel threatened by others or are exposed to information that threatens the self (Campbell & Sedikides, 1999). Indeed, in Cialdini et al. (1976) classic study on basking in the reflected glory, individuals were more likely to use the pronoun "we" when referring to their winning football team and less likely to use "we" when referring to their losing team.

Also, in the context of State of the Union addresses and other political speeches, the use of first-person plural pronouns represents a shared sense of self-interest for the nation (e.g., *Our* nation's goal; *we* must face the challenges ahead of *us*; you are either with *us* or against *us*). The use of first-person plural pronouns may reflect a greater focus on how the collective can best serve the interest and survival of individuals, which ultimately serves self-interest. Thus, for empirical and practical reasons, first-person plural pronouns are categorized as moderate self-interest since they encapsulate the interests of both the self and others (for a review of first-person plural pronouns, see Tausczik & Pennebaker, 2010).

2.3. Other-interest

2.3.1. Friends references

Friends references (e.g., buddy, friend, neighbor) were included as indicators of interest in others. This distinction was made based on the same criteria as family references, namely that friends are not genetically related, and thus, less directly implicated in evolutionary fitness (Hamilton, 1964). Therefore, we considered friends as more peripheral to self-interest compared to family members.

2.3.2. Other-person pronouns

Other-person pronouns (e.g., you, she, he, they) were also among the clearest indicators of a general interest in others. Use of these pronouns generally reflects awareness of and attention toward others (Tausczik & Pennebaker, 2010). Moreover, other studies examining changes in constructs related to self-interest have categorized these pronouns as other-focused (DeWall et al., 2011; Twenge et al., 2012a).

3. Results

The primary purpose of this study was to examine changes over time in self-interest and other-interest in political speeches. Pure

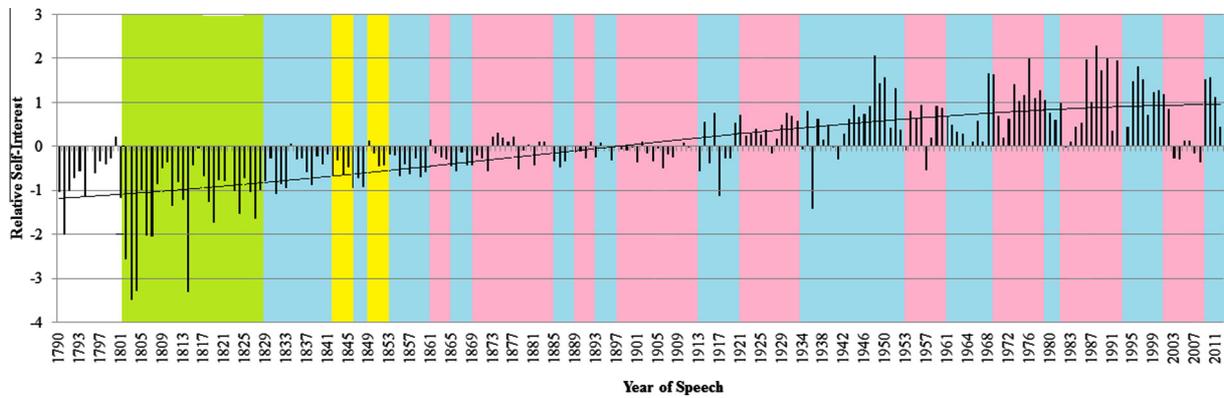


Fig. 1. Relative self-interest from 1790 through 2012. Colors correspond to political party of the sitting president: Republicans (Red), Democrats (Blue), Whigs (Yellow), Democratic-Republicans (Green). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

self-interest (*first-person singular pronouns*), moderate self-interest (*family references, first-person plural pronouns*), and other-interest (*other-focused pronouns, friends references*) variables were simultaneously regressed onto year (see DeWall et al., 2011; Twenge et al., 2012a, 2012b). Linear regression analyses provide estimates that are unique effects in the sense that the other variables are held as fixed. Holding other variables as fixed is important because there is common variance that arises from all the LIWC categories coming from the same source (one speech). The results from this regression are reported in Table 1. Self-interest variables were positively associated with year; other-interest variables were negatively associated with year.⁴

Composite indices of self- and other-interest word usage were computed by standardizing the LIWC categories (e.g., first-person singular pronouns, etc.) and then averaging them into a composite with the other standardized categories. This procedure was used to create composites for both self-interest (first-person singular pronouns, first-person plural pronouns, mentions of family; $\alpha = .76$) and other-interest (mentions of friends, other-person pronouns; $\alpha = .73$) categories. An *Egocentricity Index* was computed by subtracting the other-interest composite from the self-interest composite, such that higher scores reflect greater self-interest. Scores for the full index are available at iPEARlab.org.

3.1. Index validation

We correlated the Egocentricity Index with data from two other sources for validation purposes, to examine whether the results in the current study align well with other studies examining increases in self-interest. DeWall and colleagues (2011) analyzed trends in pronoun usage in song lyrics from 1980 to 2007. They obtained song lyrics from the 10 most popular U.S. songs from the Billboard Hot 100 year-end charts between 1980 and 2007, and analyzed them using the LIWC. We found a positive correlation between the Egocentricity Index and the use of first-person pro-

nouns in songs from 1980 to 2007, $r = .49, p = .03$.

Konrath and Anderson (2011) documented increases in the word “self-esteem” in American English books across the 20th century. They used google n-grams to count the mentions of “self-esteem” and “self esteem” from a corpus of nearly 15 million published books. The usage of self-esteem in books was also correlated with our egocentricity index, $r = .49, p < .001$. Thus, over both shorter and longer time periods, the Egocentricity Index mapped onto societal level changes in self-interest found in other studies.

3.2. Changes over time

Because presidents gave multiple addresses, there may have been some degree of non-independence between the speeches. To address this possibility, we created a multilevel random-coefficient model in which speeches were nested within presidents. Egocentricity Index scores were predicted from the linear, quadratic (year^2), and cubic (year^3) effects of year. Year (linear) was positively associated with the Egocentricity Index, $b = .01$, 95% confidence interval = [0.008, 0.016], $SE = .002, Z = 5.43, p < .001$. The quadratic ($p = .68$) and cubic ($p = .62$) effects of year were unrelated to the Egocentricity Index. As seen in Fig. 1, throughout the 19th century, state of the union addresses had higher other-interest relative to self-interest. However, after the early 1900s, self-interest began to rise, peaking during the period between 1970 and 1990.

4. Discussion

We find a growing emphasis on self-interest and a diminishing emphasis on other-interest in State of the Union addresses since 1790. Specifically, the current study of 226 speeches revealed a decrease in words related to other-interest (e.g., “his/her,” “neighbor”) and an increase in words related to self-interest (e.g., “I, me, mine,” “mother”). This finding that self-interest has increased historically aligns well with research documenting increases in self-focused traits and cultural products in recent years (Konrath & Anderson, 2011; Twenge, 2006; Twenge et al., 2012a). However, we extend prior work considerably by revealing that there was a significantly longer time period (the 19th century) when the nation was more other-focused than self-focused. The turn of the century was accompanied by a turn of the nation towards self-interest, peaking between 1970 and 1990, before declining in recent years.

The current study improves on prior work examining societal changes in constructs related to self-interest. First, the current study is by far the longest cross-temporal analysis of its kind, extending the time frame of its predecessors by a century or more (DeWall et al., 2011; Konrath & Anderson, 2011; Twenge et al., 2008, 2012a, 2012b, 2012c). Second, our analysis improves on

³ Second- and third-person (singular and plural) pronouns were combined due to their conceptual similarity as representing “others.” However, when the individual categories were entered into the regression predicting year of speech (see Section 3), the results were identical in direction and significance, and the individual terms (second person: $\beta = -.21, p < .001$; third-person singular: $\beta = -.10, p = .01$; third-person plural: $\beta = -.16, p < .001$) were in the same direction as the composite variable of other-person pronouns ($\beta = -.28, p < .001$).

⁴ Political orientation was not included in the previous analyses since the well-known Democratic and Republican party distinction did not always exist, especially throughout the 19th century. Also, the policies and positions of each party have changed dramatically over the history of the US. As such, political party distinctions are also confounded with time. Figure 1 provides descriptive information of self-interest among these political parties, but no statistical comparisons were made.

prior work that was limited to individual-level examinations of traits in college students using self-report measures by examining speeches that may serve as societal thermometers of self-interest. Third, we included a larger range of indicators of self-interest compared to previous studies. Fourth, and most importantly, this study situates the generational changes in self-interest within a longer-term historical context, revealing that not only is self-interest increasing, but there was also a period in US history when the nation was relatively high in other-interest.

The creation of a historical self-interest index, the *Egocentricity Index* allows other researchers to examine correlates of self-focus versus other-focus trends in the US. The extremely long duration of our study provides a critical perspective on the potential cyclical nature of these effects. For instance, our data show a regular dipping and rising pattern *within* certain historical periods, despite the overall pattern of increased self-focus. Carefully examining these micro-changes might be useful for understanding small fluctuations in Egocentricity over smaller time periods, and may serve as a useful predictor of other societal trends (e.g. short-term economic variables).

Despite the promising implications of this study, there are a number of limitations that should be considered. For example, the use of speeches may not reflect the self-interest of the nation as a whole, but rather changes in an elite group of politicians. Unfortunately, we have no way of quantifying the self-interest of the presidents themselves, or how their self-interest related to the electorate. However, individuals generally vote for politicians whose traits most resemble their own (including selfishness), suggesting that the traits of presidents and the general population may be related (Caprara, Vecchione, Barbaranelli, & Fraley, 2007). Nevertheless, future research can examine the extent to which cultural products reflect the psychological state of the general population to ensure the validity of studying changes in psychological states over time using such indicators.

Further, the content of speeches might merely symbolize what politicians think the electorate wants to hear. As such, changes in speech content over the last 200+ years could reflect changes in what politicians consider to be persuasive. However, much of the content of the speeches has been dedicated to social and public programs and legislation that has had large effects on US culture. Since government policy and programs can have large effects on the psychological state of a country, and the psychological state of a country can have large effects on government policy and programs (Pyszczynski, Solomon, & Greenberg, 2003), it seems reasonable to conclude that the State of the Union addresses capture at least some of the increases in self-interest in American society. With reference to the current study, it is interesting that the nation might consider a politician pandering to their self-interests to be more persuasive, which would also support our hypotheses.

The LIWC-generated composites of pronouns and mentions of family, friends, and others do not include proper nouns, which presents another limitation. As such, specific mentions of a president's name (i.e., Barack) or family (i.e., Michelle) are not included in the present analyses. Coding the names relevant to each presidential administration could provide a more precise measure of self-interest and other-interest in future research.

Finally, this study is limited to a Western, individualistic cultural context. Since the ability to assume another person's perspective is often bound by the constraints imposed by one's culture (Wu & Keysar, 2007), future research should examine whether parallel changes occur within more collectivistic cultures (e.g. Korea, China).

Yet, the current study is the first of its kind to document changes in self-interest in American society from 1790 to 2012. Our analysis suggests that extreme self-interest may be a relatively recent phenomenon in US culture. Increases in self-interest could

be particularly worrisome given the interpersonal costs of too much focus on one's own needs (Crocker & Park, 2004). Moreover, the foundation of most societies is built on the ability to compromise with others who have different interests to arrive at solutions that benefit society as a whole.

In summary, we observed increases in indicators of self-interest in the United States over a period of 222 years. These increases align well with previous research examining individual- and cultural-level changes in concepts related to self-interest but can now be contextualized within the entire political history of the US. Future work can examine the specific conditions under which greater societal-level self-interest emerges and the conditions under which interest in others is enhanced.

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