

The self-control vs. self-indulgence dilemma: A culturomic analysis of 20th century trends

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Abstract

Within the conceptual framework of the Tightness-Looseness (TL) paradigm, we study the dynamics of the social salience of self-control (tight) vs-self-indulgence (loose) orientations across the 20th century on the basis of the English Google Books corpus, by means of the construction of specific lexica of which we track their relative frequency. We find that whereas the trend of self-control displays a steady increase throughout, that of self-restraint is U-shaped, so that following a decline along the most part of the century, starting from the late 70s-early 80s we observe a reversal of the trend that signals an increasing salience of self-control. Such result seems to reflect the consumerist turn that has characterized the post-industrial cycle from the 80s onwards. The coexistence of growing trends for mutually antagonizing orientations calls for further analysis of their social interplay. We also perform a parallel analysis on semantically related lexica that confirm the robustness of our findings.

Keywords

Self-control; self-indulgence; Tightness-Looseness; culturomics; consumerism.

Certainly it is not usual any more for Western -- at least American -- society to value self-control. Personal expression and satisfaction of emotion is considered to be more healthy and honest than restraint and denial.

Dissanayake (1995), p. 136.

1. Introduction

The tightness-looseness (TL) paradigm has proven to be one of the most fruitful conceptual frameworks to understand how social norms vary across cultures, and how they evolve over time (Gelfand et al, 2017). Tightness and looseness as overarching social orientations are in turn characterized by distinctive socio-cultural patterns. For instance, tightness favors social order as a consequence of closer social control, whereas looseness favors creativity as a form of exploration of possibilities shielded from social conformity pressures (Jackson et al, 2019). There are potentially many socio-cultural dilemmas that may be relevant in the analysis and interpretation of complex, relevant behavioral patterns found in different social and historical contexts, and the TL paradigm naturally offers a context in which they can be meaningfully defined and assessed in terms of suitable correlatives of forms of tightness vs. looseness.

One of the most interesting and debated such dilemmas is that between self-indulgence and self-restraint, an early instance of which can, for instance, be found in the famous, 2500-years old Aesop fable of the ant and the grasshopper, which clearly takes position for the latter against the former. This fable provides an important cultural foundation for saving and prudent economizing as a key value of the Western ethos, but at the same time it lends itself to varying interpretations depending on the prevailing social value systems (Kennedy, 2020), once again confirming the open-ended status of the dilemma across societies. Outside the Western tradition, for example, Gandhi (1947) also took position in favor of self-restraint against self-indulgence in an eponymous book. The self-indulgence/self-restraint dilemma may also be seen as a leading motif behind Max Weber's identification of the Protestant spirit as the root of modern capitalism, which again identifies in self-restraint the behavioral pillar of long-term economic growth (Zou, 1994). On the other hand, as Weber himself notes, the focus on self-restraint comes at the price of disenchantment, that is, of giving up pleasure and mind-wandering as a driving force of human ingenuity – a dimension that will be recovered by leftists critics of capitalism such as Antonio Gramsci (Sommer and Sacco, 2019).

As it is well known, also self-indulgence has in fact been recognized as a pillar of economic prosperity by influential proponents of demand-side macroeconomics such as Thomas Malthus (Dutta et al, 2018), John Maynard Keynes and Thorstein Veblen (Watkins, 2015). More generally, consumerism is widely regarded by most economic stakeholders as a basic engine of any well-functioning market economy, and boosting the consumption motive is often invoked as a natural solution to situations of protracted economic stagnation (Miles, 1998).

Unsurprisingly, consumerism has then become a global cultural trend along the 20th century as a consequence of the increasingly generalized improvement of spending capability and economic well-being (Stearns, 2006). However, the raising social awareness of the negative impact of excessive consumption on several key dimensions such as environmental sustainability, and the consequent search for new experience-based models of wellbeing that invite to recycling available goods in a circular economy perspective (Milios, 2018), or to decluttering as a form of psychological hygiene and of subtle aestheticization of restraint (Khamis, 2019), provide in turn cultural counter-forces that seem to start pulling the pendulum toward the opposite direction. The self-restraint/self-indulgence dilemma is therefore in perpetual evolution and is subject to the influence of a complex range of different, heterogeneous factors, whose analysis calls for a tailored, likely trans-disciplinary approach.

The social prevalence of either of the two horns of the dilemma has important consequences in terms of salient social attitudes and judgments, criteria for the allocation of resources, and reference standards of wellbeing. Studying the time evolution of the relative prevalence of self-restraint vs. self-indulgence as a driving social orientation is therefore of great relevance from many different angles, including policy ones. The TL paradigm invites tackling the issue in terms of the dynamic cultural evolution of tight vs. loose value orientations. We can ask in particular what are the socio-cognitive mechanisms that favor the diffusion of a certain attitude as a reference value orientation against other, competing ones.

In this paper, we provide a preliminary analysis in this direction, by tracking the time evolution of the relative social salience of the two orientations, as emerging from the analysis of a very large corpus of texts in English over the time span of the whole 20th century. In particular, we track the relative frequency of a number of terms closely associated to self-restraint vs. self-indulgence in the almost 3 million books that are present in the Google Books corpus for the period 1900-2000, extremes included. The use of such large corpora of printed texts to track the time evolution of complex cultural traits has now been firmly established in the scientific practice (and generally denoted by the term ‘culturomics’; Michel et al, 2011) and has been particularly fruitful in the analysis of cultural transmission phenomena (Sindi and Dale, 2016) and in the investigation of the relationships between ecological and cultural change (Greenfield, 2013).

The 20th century is, in particular, an appropriate period of analysis of the dynamic of evolution of the relative social salience of self-restraint vs. self-indulgence. On the one hand, the 20th century has witnessed a growing influence of a managerial culture of control (Thompson and van der Broek, 2010) that has contributed, although with the expected cross-cultural variations, to the tightening of organizational culture (Gelfand et al, 2006). On the other hand, the same century has also witnessed, as already remarked, the gradual transformation of consumption from the response to an urge to satisfy need to a form of identity building and self-expression (Zukin and Smith Maguire, 2004). This paves the way to an implicit recognition of self-indulgence as a form of defense of self-integrity (Sivanathan and Pettit, 2010) and pursuit of self-worth (Batra and Ghoshal, 2017) through the exploration of, and experimentation with, one’s own desires. In view of these conflicting social and cultural influences, which are closely intertwined in contemporary capitalist societies, it is difficult to anticipate how the social dynamics of relative salience of the two terms has unfolded across the last century.

In our analysis, we find an interesting pattern. Throughout the first half of the 20th century and well into the second half, self-restraint clearly emerges as the dominant tendency, with the influence of self-indulgence steadily declining in parallel. However, starting from the 70s, we witness a U-turn in the dynamics of self-indulgence, whose salience starts to grow, and a concurrent slowing down of the momentum of self-restraint. This trend seems to closely reflect the revolution in the consumerism culture of the 80s which imbues consumption with a sort of ‘magical’ quality turning it into a cultural touchstone of mature capitalism (Lee, 1993). More generally, this ‘dynamic regime change’ that seems to mark a switch from tightness to looseness in the English-speaking cultural world, may reflect a number of concurrent factors at work, which are amenable to analysis in terms of cultural transmission processes, and which invite further analysis, especially in terms of their impact on prevailing social norms and on the social regulation of behaviors.

The remainder of the paper is structured as follows. Section 2 presents a brief review of the literature on culturomic analyses of cultural and social trends. Section 3 introduces our data and methodology. Section 4 contains our main results. Section 5 discusses the results. Section 6 concludes.

2. Culturomic analysis of cultural and social trends

Culturomic methods of analysis have proven to be particularly powerful in highlighting subtle trends of long-term cultural change across a variety of different corpora, some of which were previously poorly considered by quantitative social science research.

An interesting field of application has been the tracking of the relationship between macroeconomic conditions and their trace in literary corpora as a marker of economy-related social attitudes. Bentley et al (2014) show for instance how the negative effects of economic crisis reflect into literary expression along a decade-wide time window, and that such effect holds across corpora in different languages, in this case English and German. Chen and Yan (2016), working on the 20th century English Google Books dataset, highlight a close relationship between the state of the economy in the US and literary references to class and social status; interestingly, such relationship holds for levels of economic activity but not for those of economic inequality.

Another field in which culturomic analysis has proven of interest has been that of the evolution of socio-cultural dispositions at various levels. In the case of changes in gender equality, for instance, Twenge et al (2012b) report, in the American English Google Books corpus for the 1900-2008 time span, that the relative frequency of use of male vs. female pronouns (and in particular, the relative increase in the use of the latter) reflects the improvement of women’s status as captured by socio-economic indicators such as educational attainment, labor force participation and age at first marriage, as well as by psychological traits such as assertiveness. Ye et al (2018) use the English Google Books corpus between 1800 and 2000 to analyze the changes in the incidence of word markers of Big Five traits employed to describe the two genders, finding again that the difference in usage and trait characterization across genders have shown some reduction over time.

Also the study of the shift from collectivist to individualistic orientations that has been long thought to be associated with mature capitalism has attracted considerable attention. Twenge et al. report an increase in the incidence of individualistic words and phrases (2012a) and a shift from collective to individual pronouns use (2013) in the American English Google Books corpus between 1960 and 2008. Kesebir and Kesebir (2012) look at whether the shift toward individualism in American culture would also reflect in a decreasing incidence of terms relating to moral excellence and virtue, finding that their cultural salience has been substantially decreasing. Hamamura and Xu (2015) register a similar shift from collectivism to individualism in the Chinese Google Books corpus, 1950-2008, as measured by the varying incidence of collective vs. individual pronouns – a remarkable result in view of the traditional collectivist orientation of Chinese culture. Zeng and Greenfield (2015) find an analogous result by studying the relative dynamics of incidence of Chinese word markers for individualistic vs. collectivist values in the same corpus for the 1970-2008 period.

Finally, culturomic analysis has been employed to track changes in the salience of emotional or cognitive traits in cultural production, such as in the case of books, songs, or movies, also making use of different corpora than specific language versions of Google Books. Acerbi et al (2013) analyze changes in emotionally-related English words in the English Google Books corpus 1900-2008, finding a general decrease in usage, but with an important difference between American and British English, with the former becoming relatively more ‘emotional’ than the latter in the last fifty years. Morin et al (2017) find, on the basis of an analysis of the Google Books fiction corpus in English and of two smaller but significant selected corpora of texts, that Anglophone fiction has experienced a two-centuries-long decline in the relative salience of emotional terms, which is almost exclusively due to the decline in the expression of positive, but not negative, emotions. Brand et al (2019) work on two different datasets of song lyrics, one of which with more than 150,000 songs, over the period 1965-2015, to analyze emotional expression along similar lines, finding again a significant relative increase in the negative emotion valence of lyrics.

Culturomic methods have also been used to analyze the long-term evolution of tightness vs. looseness specifically. Jackson et al (2019) report a clear tendency toward loosening in American culture over the past two centuries, which also raises, as already highlighted, a creativity-order tradeoff that poses serious challenges to the social governance of complex, knowledge intensive societies -- as it is the case with most socio-economically advanced countries today. The analysis of the present paper directly relates to that of Jackson et al. (2019) by covering a specific dispositional dilemma that is closely associated to the tightness-looseness dyad, such as self-restraint vs. self-indulgence, and therefore contributes to a still relatively limited stream of research which has however a remarkable potential for further application.

3. *Data and methods*

In this paper, we track the relative salience of self-restraint vs. self-indulgence in the English Google Books corpus, including all printed materials in English language available in the repository. Making an exclusive reference to English language clearly introduces a cultural bias. However, as we fix our attention on the 20th century (1900-2000, extremes included), and given that in this time period English has functioned as a global language platform for the diffusion of contents and ideas, we think that this particular choice can be indicative of a global cultural trend, which is obviously subject to local variation and even disconfirmation, but that is a first meaningful benchmark for our analysis.

To build an appropriate lexicon of verbal correlatives for the two notions, we have chosen two complementary angles: building lexical correlatives directly for the restraint/indulgence terms, and building a complementary set of lexical correlatives for two closely related verbal forms, namely ‘want’ as associated to indulgence, as the most direct and elementary form of manifestation of volition and desire, and ‘must’ as associated to restraint, as the most direct and elementary form of manifestation of the restriction to choice as prescribed by a norm of some kind. The rationale behind this approach is to make an indirect check of the robustness of the results by investigating two related, complementary lexica to operationalize the same concept.

In particular, we built a list of 30 words for each of the four items (restraint/indulgence, must/want), which represent some of the most common semantic correlatives to the reference term. On this basis, we extracted the frequencies of each of the 4 lists of 30 words in the *English* sample (including all printed materials in English language) of the second, most recent version of the Google Books corpus (Lin et al., 2012). The analysis covers the years 1900-2000, extremes included, making for around 3 million volumes (2,980,271). We limited our analysis to this period to maintain a relative homogeneity in the coverage, as there are less books present in the sample before the beginning of twentieth century, and as more recent books, published after 2000, are still being included in the corpus, possibly biasing the selection. We report the list of the words for each category in Table 1 below.

Table 1

indulgence	restraint	want	must
allow	adjust	adore	advise
amuse	administer	aspire	administer
appease	apply	attract	appoint
award	balance	choose	approve
coddle	brace	claim	arrange
comfort	consolidate	covet	authorize
concede	control	crave	check
delight	counsel	demand	command
energize	discipline	desire	control
entertain	exercise	discharge	coordinate
enthrall	guide	expect	decide
excite	limit	fancy	delegate
grant	manage	flatter	delete
gratify	modulate	fulfil	determine
indulge	monitor	gratify	direct
lure	oversee	intend	enforce

pamper	regulate	like	establish
permit	reinforce	love	execute
please	resist	lure	manage
quench	restrain	meet	organize
satiate	rule	need	plan
satisfy	settle	please	prevent
seduce	steer	prefer	prohibit
surrender	strengthen	require	recommend
tease	supervise	satiate	reject
tempt	survey	satisfy	report
thrill	temper	seduce	require
tickle	train	suit	stop
titillate	wield	wish	supervise
yield	withstand	yearn	train

For each category, we present three main analyses: the general trend in the corpus, the contribution of single words to the general trend, and the trend when excluding high-frequency words. The last two analyses allow us to check the robustness of the general trends: since word usage is characterized by strongly skewed distributions, we check whether some trends might be driven largely, or entirely, by the dynamics of high-frequency words.

4. Results

In Figure 1, we report the results of our analysis for the indulgence-related lexicon. We track their average frequency by year across the period of observation, and compute the regression line by means of the LOESS method. As it can be seen, the regression line is U-shaped, with an inversion occurring around the early 70s. Before that moment, indulgence showed a marked, steady decline, to start growing afterwards.

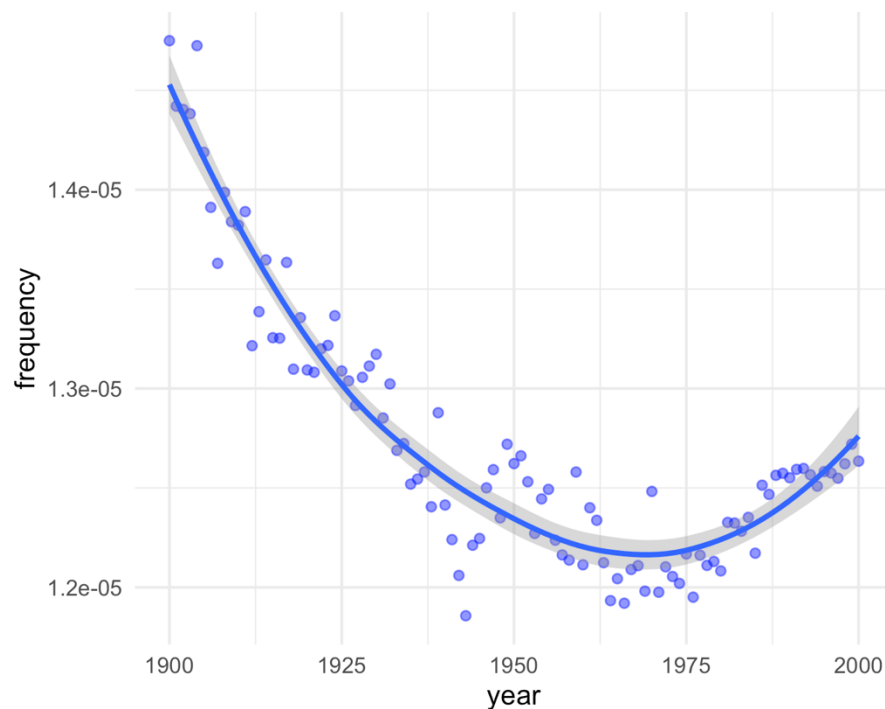


Figure 1: General trend for the 30 terms semantically related to ‘indulgence’: average frequency by year, and regression line (LOESS method).

The specific words that are most responsible for the trend, and to what extent the trend itself is driven by high-frequency words are shown in Figure 2 below.

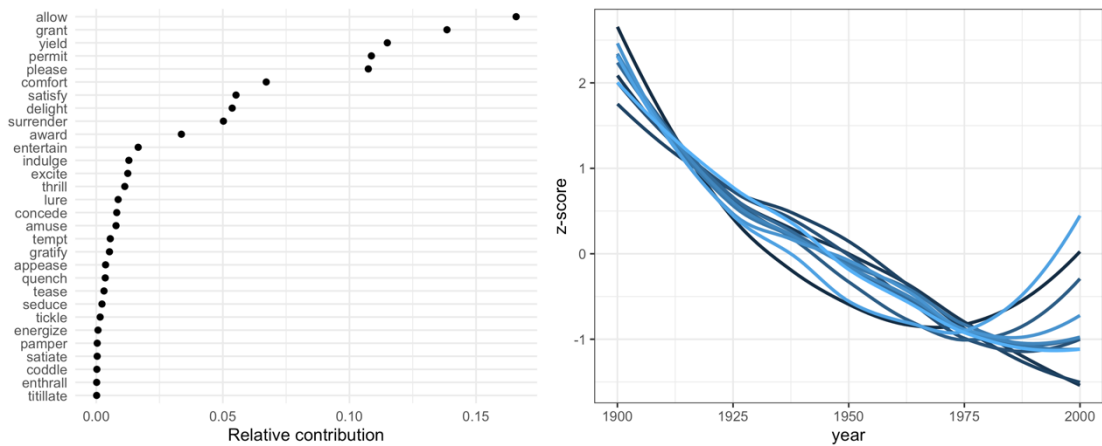


Figure 2: Left: Relative contribution of the 30 terms semantically related to ‘indulgence’: average frequency by year, and regression line (LOESS method). Right: Regression line of the z-scores of the trends when excluding high-frequency words (the “lighter” the color, the more the high-frequency words excluded, up to a maximum of 10).

In Figure 2, we see that there are a few words that provide an outstanding relative contribution to the incidence of indulgence-related words in the text, namely, ‘allow’, ‘grant’, ‘yield’, ‘permit’, and ‘please’. Five more words offer a less marked contribution but still outstanding with respect to the rest of the corpus: ‘comfort’, ‘satisfy’, ‘delight’, ‘surrender’ and ‘award’. As most of these are words that appear with high frequency in English texts and can take a variety of meanings, we have proceeded to test the stability of our trend analysis with respect to the selective omission of high frequency words from the indulgence-related lexicon, up to a maximum of 10 canceled words. We map the corresponding variations of the z-scores against years of observation, where the more the color of the curves shifts from black to light blue, the more the omitted high-frequency words. As it can be seen, the trend we find is robust with respect to the omission of high frequency words from the lexicon.

We now conduct an analogous exercise for the restraint-related list of words. The regression results are shown in Figure 3.

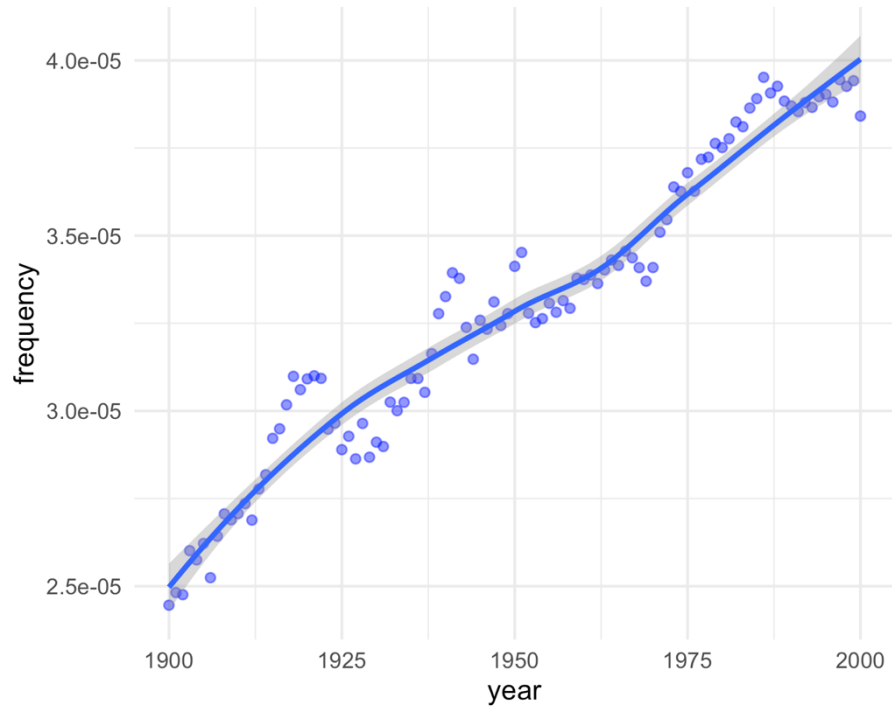


Figure 3: General trend for the 30 terms semantically related to ‘restraint’ (see Figure 1 for details).

In the case of the restraint-related lexicon, we observe a trend of relative incidence that is constantly growing along the period of observation, although at varying rates. Again, we consider the relative contribution of different words from the lexicon and the effect of high frequency words in driving the trend, as shown in Figure 4.

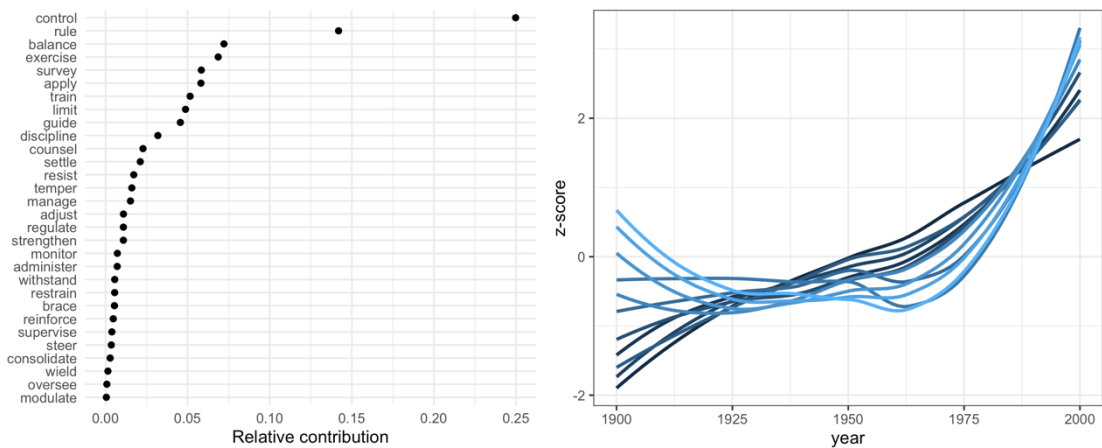


Figure 4: Left: Relative contribution of the 30 terms semantically related to “restraint”. Right: Regression line of the z-scores of the trends when excluding high-frequency words (see Figure 2 for details).

In this case, there are basically two terms that stand out as to their relative contribution to the overall trend, namely ‘control’ and ‘rule’, two high frequency words, which are used with significant semantic variation in English language but whose core meaning is rather closely related to the semantic sphere of restraint. There is also another set of terms that contribute more significantly than all the others, namely ‘balance’, ‘exercise’, ‘survey’, ‘apply’, ‘train’, ‘limit’ and ‘guide’. For some of them we have again possible high-frequency use-driven biases. The corresponding analysis when high frequency words are excluded shows again a substantial confirmation of the trend, albeit with a relatively more complex pattern than the one emerging from mere frequency analysis.

When we carry out an analysis according to similar lines on the want-related and must-related lexica, we obtain the following results. For the want-related lexicon, the regression results are shown in Figure 5.

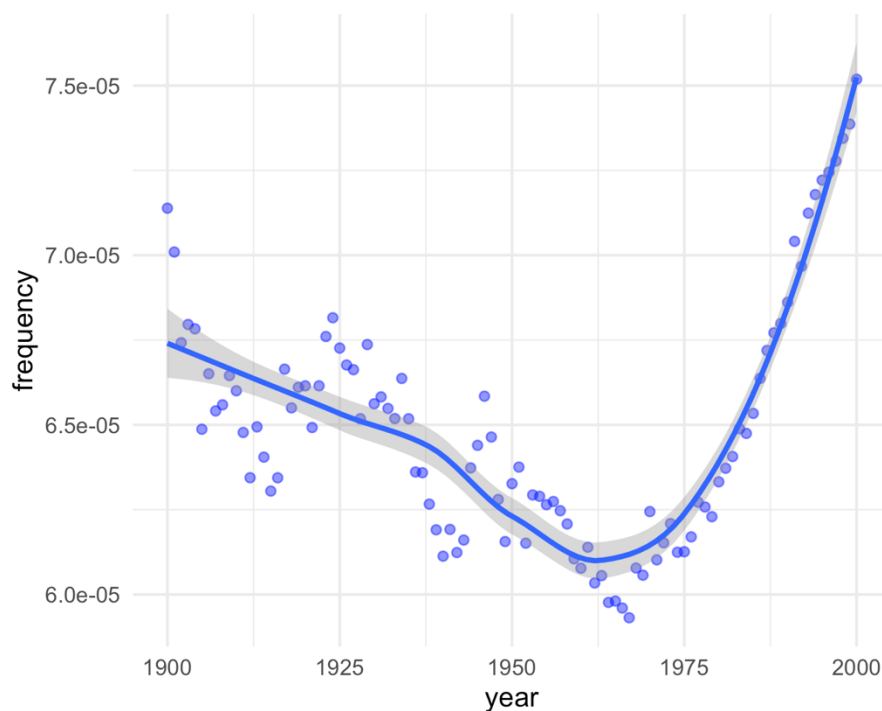


Figure 5: General trend for the 30 terms semantically related to “want” (see Figure 1 for details).

As shown in Figure 5, the trend closely matches the one found for the indulgence-related lexicon, the main relevant difference being a slight anticipation of the turning point to the late 60s. Figure 6 also confirms that the analysis is robust with respect to the omission of high frequency use words. There are three very high frequency words that mainly contribute to the general trend: ‘like’ (whose incidence is more than double than all the other ones), ‘love’ and ‘need’. In this case, therefore, controlling for the omission of such words is particularly important, and the fact that the trend is confirmed corroborates our general result.

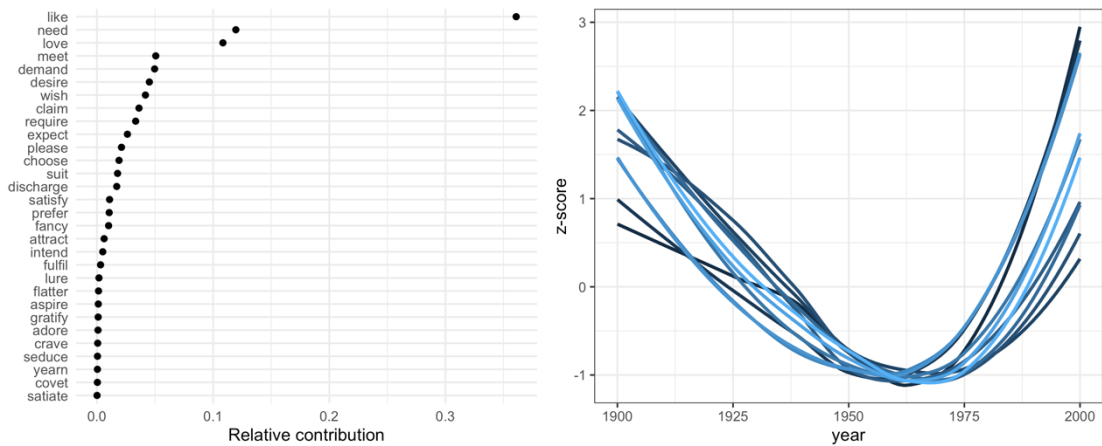


Figure 6: Left: Relative contribution of the 30 terms semantically related to “want”. Right: Regression line of the z-scores of the trends when excluding high-frequency words (see Figure 2 for details).

Finally, we consider the analysis of the must-related lexicon, which once again confirms the trend found in the analysis of the restraint-related one, as shown in Figure 7. In Figure 8, we see that the most relevant words as to the contribution to the overall trend are ‘control’, ‘report’, ‘plan’ and ‘direct’, but despite that these are all high frequency words, the robustness analysis confirms that the pattern we found is not dependent upon this source of bias.

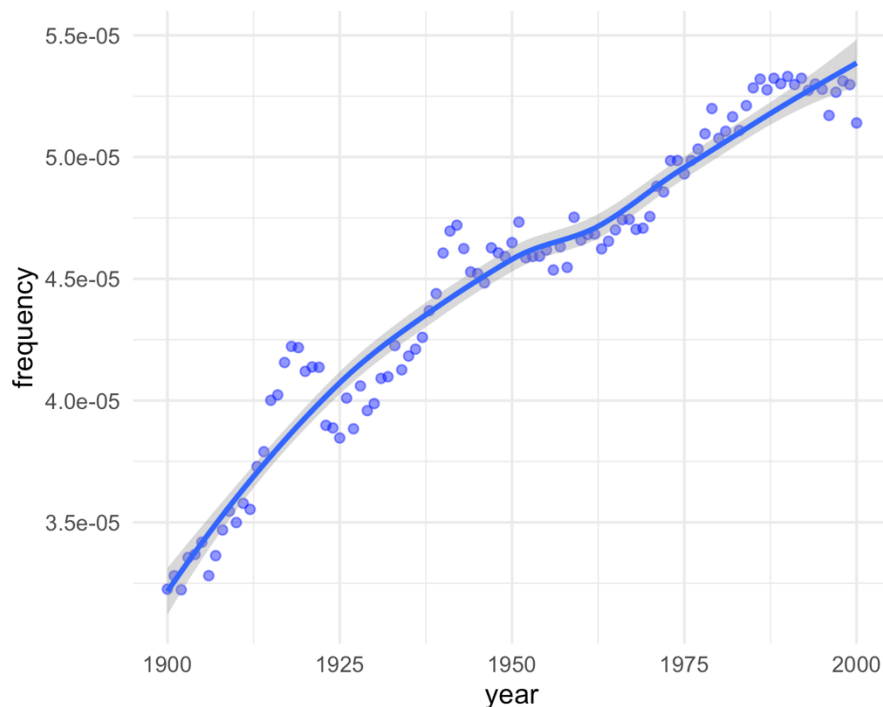


Figure 7: General trend for the 30 terms semantically related to “must” (see Figure 1 for details).

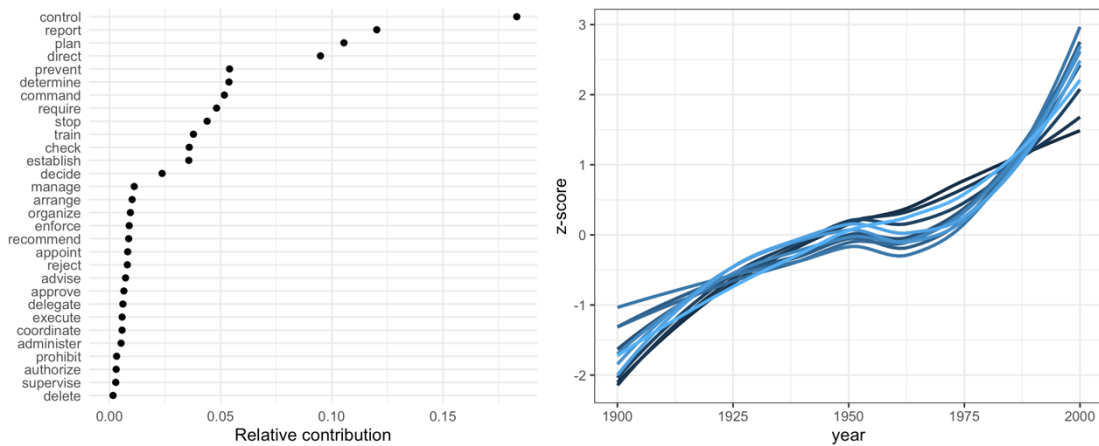


Figure 8: Left: Relative contribution of the 30 terms semantically related to “must”. Right: Regression line of the z-scores of the trends when excluding high-frequency words (see Figure 2 for details).

5. Discussion

Overall, we found clear trends in the usage of the words semantically related to our four categories in the *English* sample of the Google Books corpus. The trends of ‘indulgence’ and ‘want’ are both U-shaped, showing a decrease followed by an increase starting at the turn of the 70s. The trends of ‘restraint’ and ‘must’ are also clear, with an increase throughout the century. Such trends seem robust with respect to the contribution of high-frequency words. In this regard, the most extreme case is in the trend related to ‘want’, where the single word ‘like’ accounts for between 0.3 and 0.4 of the general trend’s volume. Additionally, most of the usages of ‘like’ could be not related to its function as a verb, which is the one we considered here in its semantic relationship to ‘want’. Even in this case, however, the z-scores of the general trend, which give its overall direction, are consistent with the main result (a decrease until the 1960s followed by an increase, as shown in Figures 5 and 6 above).

Tightness and looseness are complex, multidimensional constructs, whose measurement requires a rich methodological toolbox. The restraint/indulgence dyad is more focused, and yet closely related to the more general one, of which it can be considered a specific component, which has however a particular socio-cultural significance. The interest in the analysis of this particular dyad lies in the fact that it has played an important role in human cultural history, and presents a close relationship to one of the key human moral dilemmas, frugality and sobriety versus extravagance and prodigality, a contraposition that has meaningful implications for social and economic choices. As we have argued in the introduction, from a socio-economic viewpoint one can make equally compelling cases for both indulgence and restraint as key pillars of prosperity, and yet they are generally presented as opposing in their dispositional nature and in their behavioral implications.

For this reason, analyzing the dynamics of the relative cultural salience of the two terms across the 20th century is of particular interest. What we learn from international comparisons

is that both extreme tightness and extreme looseness is dysfunctional, and that thriving societies are those which are characterized by a fair balance of the two elements (Harrington et al, 2015). What does this imply for our analysis of restraint vs. indulgence? In order to answer this question, we must first discuss what may be the forces that might help explain the factors at work behind the trends that we find.

Considering that our main finding in the analysis of the indulgence-related cultural trends is that such trend has a U-turn at the turn of the 60s into the 70s, one cannot help notice that this particular historical moment has been globally characterized by a cultural revolution that has implied a sudden release of previously very binding social constraints. This is the moment when the sexual revolution broke at the global macroscale (Allyn, 2000), accompanied and often complemented by the drugs and music revolution, marking the ‘countercultural’ turn as the triumph of ‘permissiveness’ (i.e. indulgence) over ‘control’ (i.e. restraint) (Collins, 2019). Despite that this permissivism was initially associated to a rather critical stance against consumerism and the bourgeois way of life, that is, it claims to be relatively selective as to the socially salient forms of indulgence (which tend to be associated with the transgression of the pre-existing moral order), it actually ends up paving the way to the hyper-consumerism cycle starting with the 80s (Lee, 1993; Frank, 1998), and eventually absorbing anti-consumerism itself as a specific form of consumption (Möckel, 2019). Once indulgence is socially legitimized and socially trending, ‘regulating’ it becomes intrinsically contradictory and culturally unfeasible.

Our results seem to be consistent with what is to date one of the most comprehensive long-term analyses of the evolution of American consumerism across the 20th century, namely Gary Cross’ (2000) study which details the transition from a value system what was originally highly charged with strong anti-consumerist (self-control) traits, inherited by the traditional foundational cultures of early American immigrants and in particular by puritanism, to a value system that, at the turn between the late 70s and the 80s, after the transitional postwar phase of the 1960s-80s, opens a new era of materially and ideologically unlimited (unrestrained) consumption.

Self-indulgence, as opposed to self-restraint, is also widely considered, as we are reminded by the passage cited in the paper’s exergo, as a desirable cultural trait in its own right. On the one hand, the association of self-indulgence with authenticity and spontaneity may be regarded as a legitimization of self-centered individualism with low empathic orientation (Varga and Guignon, 2020), as opposed to responsible, prosocial orientations that prioritize social interest over personal one through the exercise of the self-restraint of the latter (Joosten et al, 2015). On the other hand, authenticity and spontaneity as unrestrained forms of self-expression, due to their unfiltered emotional content (Serazio, 2017), are also regarded as personal or organizational traits that favor transparent communication (Molleda, 2010). Moreover, they may command social approval in Western individualistic societies, if seen as prosocial traits in antithesis to a self-surveilled, narrow-minded focus that is associated to the anti-social pursuit of self-interest (Berman, 2009). This ambiguity of the social implications of self-indulgence also reflects in the already remarked double-sidedness of the consumerist revolution of the 80s, where sociability and anti-social motifs are deeply intertwined (Sandlin and Milam, 2008). The

U-turn starting from the 70s can therefore also be read, as an additional interpretive key, in terms of the mounting social trend supporting self-expression and creativity at the expense of repressive social censorship mechanisms that has been another main legacy of the countercultural socio-cultural movement (Whiting and Hannam, 2015).

It is however also important to stress that, despite the U-turn in the self-indulgence trend, the self-restraint one has kept strengthening as well along the century. It is as if both dimensions are supported by suitable, self-reinforcing social incentives, which likely tend to operate at different levels. To understand the interplay of these two dimensions is an interesting challenge for future research. For instance, one could observe that the widely documented self-indulgence drive in consumption choices in the past few decades has been accompanied by a growing social emphasis on sophisticated strategies of self-control of impulses and bad habits (Quinn et al, 2010) and of self-modification (Watson and Tharp, 2014), culminating in the diffusion in policy practice of non-coercive but clearly control-focused approaches to the architecture of choice such as nudging (Hertwig and Grüne-Yanoff, 2017). It is in principle possible to envision self-restraint as a coping strategy to curb the excesses of self-indulgence, and self-indulgence as a healthy reaction to the dysfunctional inhibitions of self-restraint, and this is one possible reason why the two tendencies might complement rather than antagonize each other. This could be an interesting starting point for a specific natural or field experiment.

Our analysis, despite its simplicity, can therefore be seen as an interesting first step in generating questions about the dynamics of long-term social trends that may be very useful to better understand the action of social forces on individual and collective dispositions, attitudes, and behaviors.

6. Conclusions

The self-control vs. self-indulgence dilemma is likely to be as old as human culture, and the way in which it is modulated in different social and cultural contexts and in different epochs may be a meaningful social signal of considerable potential analytical value. In our paper, we have found that, in the course of the 20th century, there has been a significant structural change: after a long period of relative social predominance of self-control attitudes, self-indulgence has gained momentum as a consequence of the consumerist revolution of the 80s, whose emergence has likely been favored by the countercultural turn of the previous two decades.

There are various possible directions of future research of potential interest. The most obvious is to analyze whether one finds an analogous pattern to that found in the present study in other corpora in different languages for the same period which are comparable to the one examined here. The Google Books archive is constantly growing, and this is an interesting next step to take. Moreover, it would be interesting to embed the present research in a larger semantic search space where the self-indulgence/self-restraint dilemma is related to other meaningful dimensions of the tightness-looseness spectrum, to understand to what extent such sub-dimensions synergize rather than oppose and to gain some more fine-grained insight on the underlying forces at work. Finally, it would be interesting to build an analytical model that can parsimoniously replicate such social dynamics to arrive at a characterization of the cultural evolution process that drives the observed trends.

Our study also has limitations. The most apparent one is the reliance on a corpus of texts which, although very large, is very heterogeneous and not easily mapped. This may be a potential source of bias whose extent and characteristics cannot be directly evaluated. On the other hand, we have today few alternatives in terms of corpora which are comparable in size and variety. Building more focused and transparent databases of comparable size in the future is a priority and at the same time a big challenge. Another significant limitation is the lexicon we adopted. The list of terms associated to each construct was developed by ourselves as there were no such lexica already available in the literature. These lexica were built by starting from a core list of terms closely related to the target construct and then widening them gradually through synonyms and closely associated terms as singled out by vocabularies until completion of a target quota of 30 items for each construct. Developing richer lexica for the constructs and testing them on a larger number of datasets is another important line for future research.

The main promise that we see in our research is its potential in contributing to establish a fruitful transdisciplinary platform for the analysis of long-term social trends in the context of the tightness-looseness paradigm. The sociological literature has for instance devoted ample attention to long-term social trends related to (self-)control vs. permissiveness, but most such studies have relied on qualitative methodologies applied to relatively small samples. The possibility to analyze large corpora of texts spanning very long periods, however, paves the way to new analytical approaches that build upon established quantitative techniques that are largely compatible with multiple disciplinary perspectives, including computational social science, social and cultural psychology, cultural anthropology and, of course, cultural sociology itself.

Our brief review of the relevant literature has shown that several new lines of research are emerging that make use of these techniques and that are providing new insights on a variety of highly relevant issues in several areas of research. In particular, our research contributes to the growing body of literature that explores the interpretive and explanatory potential of the tightness-looseness paradigm that is increasingly being recognized as a fruitful conceptual perspective in the analysis of large-scale social trends and of the genesis, evolution and effects of social norms. However, this literature is still in its early phase, so that studies such as the present one can be regarded as preliminary investigations that will hopefully be conducive to additional research and contribute to building and solidifying a new, cross-disciplinary analytical toolbox. The ultimate goal is the gradual development of a body of consilient analytical results from multiple disciplinary angles, which would provide a significant step forward in our understanding of complex social phenomena. We look forward to this promising perspective.

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