Have any virtues become anomalous in popular literature in Western societies?

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Short answer

Not yet known. Virtue words became much rarer in English books over the twentieth century. That holds in fiction as well as in books generally, and, for the 50 virtue words, after allowing for the drift of ordinary words. Whether popular novels came to show these virtues less often, or to treat them as flaws, has been tested only in two small pilots, and both were too small to tell either way.

- **Virtue words fell.** On the fiction-only part of Google Books, 41 of Kesebir and Kesebir's 50 virtue words fell from 1901 to 2000. After allowing for drift, the typical word still fell by about two fifths (41%).
- **Words tied to seven virtues fell too.** These are virtues often said to be viewed differently today, such as duty to family, obedience and chastity. By 1983-94 each group stood at between 30 and 75 on an index of 100 (its 1900s level), after allowing for drift. Two groups, duty to family and self-sacrifice, rest almost entirely on one word each (*duty*, *devotion*).
- **Portrayal is untested at a useful scale.** Two pilots compared bestsellers with less popular novels from the same years. Neither found a difference, but with 10 books per group only very large changes would show. The result is inconclusive, not a finding of no change.
- **A full test is practical.** It would need about 40 or more books per group, longer readings and two independent human coders.

Key terms

- **Anomalous virtue.** A virtue that departs from its setting's norm (unusual, unexpected, or contradictory there), or that does not carry over into another moral vocabulary without something being lost. Two readings are tested here. *Rarity* is the share of works in a dated sample in which a principal character practises the virtue. *Flaw framing* is, among principal characters who practise it, the share whose story treats it as a fault (a plot that punishes or corrects it, or a narrator or other characters who treat it as one).
- **Became anomalous.** Between two dates, the rarity share fell, or the flaw-framed share rose, by more than in comparable, less popular novels from the same years, language and market, and the interval on that difference excludes zero. Without that comparison the question is untested.
- **Popular literature.** Works meeting a documented popularity standard in a named market at the time (a bestseller list, or a sales or circulation threshold). Google Books and similar collections hold one copy of each book, so they are not popularity samples.
- **Words versus portrayals.** A *virtue-term* is a word from a fixed list; its frequency counts the string. A *virtue-portrayal* is a character or work shown practising or endorsing a virtue, and requires coding of characters or plots. Most existing evidence counts words.

The seven virtues below are hypotheses taken from an unsourced assessment. They are not findings.

Virtue	Earlier framing (hypothesized)	Later framing (hypothesized)
Duty to parents and family	Honoring parents as a duty	Entrapment; rebellion as growth
Obedience to hierarchy	Respect for order	Conformist or complicit
Religious piety	Purity and spiritual strength	Hypocrisy, fanaticism, or control
Humility	Self-effacement as integrity	Self-assertion admired instead
Emotional restraint	Endurance and self-control	Repression; disclosure needed
Chastity	Honor and self-respect	Shame or arbitrary restriction
Self-sacrifice	Highest form of love and duty	Codependency; low self-worth

What word counts show

Virtue words fell about as much in fiction as in books generally. After allowing for ordinary-word drift, most of the fall in the 50 virtue words remains. The fall in the ten general moral terms cannot be told apart from drift.

- **The Kesebir list in fiction.** Kesebir and Kesebir (2012) found that 37 of 50 virtue words fell in American books from 1901 to 2000. One objection was that Google Books took in more and more scientific writing. We reran their list on the fiction-only collection, which is much less affected by that (Pechenick, Danforth and Dodds 2015). There, 41 of 50 fell, and the typical word was used about half as often by the 1990s (raw median change -50%). The same script reproduced their published counts exactly.
- **Allowing for drift.** Ordinary words that were about as common around 1900 fell too, but by less. Each virtue word was compared with five such words, chosen by a rule and seed written down before any control data were fetched. Allowing for them, the typical virtue word still fell 41% in fiction (interval -51% to -26%) and 37% and 33% in American English and all English books (intervals -47% to -15% and -50% to -16%). For the ten general moral terms, such as *virtue* and *conscience*, the adjusted fall cannot be told apart from drift (fiction: -20%, interval -57% to +56%).
- **The seven virtue groups.** Every group fell from the 1900s to 1983-94 in both collections, and each stays below its 1900s level after allowing for drift, with every interval below 100.

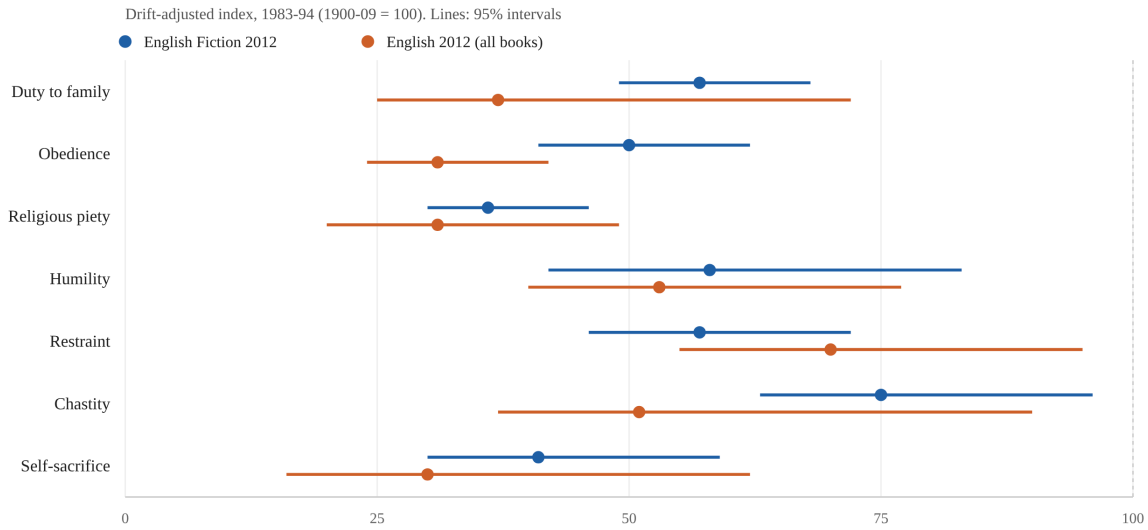

Figure 1. Drift-adjusted frequency index of each term group in 1983-94, English Fiction 2012 (blue) and English 2012 all books (orange), 1900-09 = 100. Lines: 95% intervals from 1,000 bootstrap draws of the matched control words. Lexical frequency only, not framing. Source: Google Books Ngram Viewer, queried November 16 (groups) and November 18, 2026 (controls). Numbers in Table 1.

Table 1. Drift-adjusted index, 1983-94 (1900-09 = 100), with 95% intervals.

Group	Fiction	All books
Duty to family	57 (49-68)	37 (25-72)
Obedience	50 (41-62)	31 (24-42)
Religious piety	36 (30-46)	31 (20-49)
Humility	58 (42-83)	53 (40-77)
Restraint	57 (46-72)	70 (55-95)
Chastity	75 (63-96)	51 (37-90)
Self-sacrifice	41 (30-59)	30 (16-62)

Two groups are effectively single-word measures: *duty* makes up 94.5% (fiction) and 96.5% (all books) of the duty-to-family group's 1900-09 total, and *devotion* 86% and 85% of self-sacrifice. Weighting each word equally, or dropping the most common word, the fall holds for obedience, religious piety, humility and restraint in both collections, and for duty to family and chastity in all books. It does not hold for self-sacrifice: without *devotion*, the equal-weight raw index is 94 in fiction and 107 in all books, because *selfless* rose 8- to 12-fold while *self-sacrifice* and *self-denial* fell to about a third. In fiction, the falls for duty to family and chastity rest mainly on *duty* and *purity*; without those words, the drift-adjusted intervals include 100.

After the 1990s, most groups rose again in books generally while fiction stayed flat. Most of that gap disappears after allowing for drift. Only humility still rises clearly more in all books.

Older studies point the same way. In 2,958 nineteenth-century British novels, words for abstract values, including moral judgment and social restraint, fell by more than half (Heuser and Le-Khac 2012). Broad moral vocabulary fell until about 1980 and then rose again (Wheeler et al. 2019). *Obliged* and *obedience* grew rarer from 1800 to 2000 (Greenfield 2013).

What the two pilots show

Neither pilot found a difference between bestsellers and less popular novels, but both were too small to rule one out. No earlier study we found had made this comparison for any virtue.

	Pilot A	**Pilot B**
Periods compared	1900s to 1920s	1920s to 1990s
Sample	10 bestsellers and 10 matched, less popular novels per decade	Same design
What was coded	715 short passages (about 70 words each) from the full texts	One published summary or review per book
Change in bestsellers' share showing a virtue, relative to matched novels (95% interval)	+0.07 (-0.13 to 0.29)	+0.09 (-0.01 to 0.19)
Change in bestsellers' share framed as a flaw, relative to matched novels (95% interval)	+0.12 (-0.04 to 0.29)	-0.28 (-0.88 to 0.33)
Characters whose framing could be judged	16 of 83	15 of 17

- Both rarity results point slightly against the hypothesis (an extra fall in bestsellers would be a negative number), and every interval includes zero. The one apparent result, for duty to family in Pilot A, did not survive allowing for seven separate tests.
- Large changes for a single virtue are not ruled out. With 10 books per group, a fall of up to 0.86 (Pilot A) or 0.33 (Pilot B) in the share of books showing one virtue could have been missed. The pooled intervals rule out only an average extra fall in bestsellers larger than 0.13 (Pilot A) or 0.014 (Pilot B). Pilot B's bound is tight because few virtues appear in the summaries (base shares 0.01 to 0.13). Pilot A's framing interval rules out a pooled extra rise above 0.29; Pilot B's framing interval is unreliable (2 to 9 practising characters per cell).
- The two methods see different things. Short passages rarely show how a story judges a character, while summaries show the judgment but mention few virtues. On the 16 novels coded both ways, passages found a virtue in 26 book-virtue pairs and summaries in 9, with only 3 in common.

What would settle it

Scale up the pilot design: about 40 or more books per group, readings of a chapter or longer so that framing can be seen, and two independent human coders. The pieces already exist:

- **A sample of popular books.** Annual US bestseller lists for 1895 to 1975 are compiled in Hackett and Burke (1977).

- **A working method.** Underwood, Bamman and Lee (2018) coded characters in about 104,000 novels from 1780 to 2007 and checked the pattern on *Publishers Weekly* bestsellers. They coded gender, not virtue, but the same approach would work.

Until then, fewer uses of words such as *humility* or *sacrifice* are a fact about word use. They are not evidence that popular fiction treats those virtues as flaws.

Caveats

- **The word evidence is not popular literature.** It comes from library-like collections, not lists of what people read. It counts words, not how characters are shown.
- **The drift adjustment is rough.** Control words are matched only on how common they were around 1900 and on part of speech, not on meaning or later trends. For words that were near zero in 1900, such as *selfless*, the adjustment is fragile. In all books most of the seven groups' control series rose, so the adjustment there deepens the falls.
- **Many words have other meanings,** such as *duty* as a tax, *devotion* in a romantic sense, or *purity* in chemistry.
- **The seven word lists came from a chart of unknown authorship.** The 1983-94 window was chosen after the data had been seen.
- **Google Books changed how it sampled books around 2000.** Differences between fiction and books generally after the 1990s are therefore uncertain.
- **The pilots were coded by one AI system that knew each book's period.** Its agreement with itself (kappa 0.97) shows consistency, not reliability. Some "less popular" authors were widely read, such as Grace Livingston Hill and Thomas Pynchon. Pilot B's source differs by period, and its summaries are longer for 1920s bestsellers than for the books matched with them.
- **The literature search was limited.** Google Scholar, JSTOR, PhilPapers and Semantic Scholar could not be searched by script. Every "no study found" rests on Crossref, OpenAlex and general web searches run on November 16, 2026.
- **The scope is narrower than the title.** All the data are US and UK English, so "Western societies" means only those markets.

Where each claim stands

A claim counts as refuted only by a clear result in the opposite direction, or by a test large enough to show that any effect is too small to matter. A small test that finds nothing, like the pilots, is inconclusive.

Claim	Status
Over time, popular novels came to show at least one virtue less often than comparable novels did	Inconclusive. Two small pilots; no difference detected; intervals include zero; underpowered
Over time, popular novels came to treat at least one virtue as a flaw more often than comparable novels did	Inconclusive. Two small pilots; no difference detected; intervals include zero; too few practising characters
Virtue words fell in 20th-century English books	Supported for the 50 virtue words, also after allowing for drift. The ten general moral terms cannot be told apart from drift
The same holds in fiction	Supported for the 50 virtue words: 41 of 50 fell; the typical word fell 41% after allowing for drift. The general terms cannot be told apart from drift
Word groups for the seven virtues fell from the 1900s to 1983-94	Supported in both collections, also after allowing for drift. Duty to family and self-sacrifice are effectively single-word measures (*duty*, *devotion*). Without *devotion*, self-sacrifice shows no raw fall
Moral and restraint words fell in 19th-century British novels	Supported (Heuser and Le-Khac 2012), as token frequencies
A fall in word use means a virtue has become anomalous	Argued against. Words are not portrayals
Popular books differ from less popular ones in virtue words or portrayal in the same periods	Untested as a planned comparison. The pilots give within-period gaps of inconsistent sign
The question as a whole	Open

Detail and sources

The full technical report (online at thecav.org/research/popular-literature-virtues-technical-report.pdf) has the methods, the raw and equal-weight index tables and the single-word checks (Tables 1-3 there), the pilot sampling rules, the search log (Appendix B) and how each source was checked (Appendix C).

- Kesebir, P., & Kesebir, S. (2012). The cultural salience of moral character and virtue declined in twentieth century America. *The Journal of Positive Psychology*, 7(6), 471-480. doi:10.1080/17439760.2012.715182
- Pechenick, E. A., Danforth, C. M., & Dodds, P. S. (2015). Characterizing the Google Books corpus: Strong limits to inferences of socio-cultural and linguistic evolution. *PLOS ONE*, 10(10), e0137041. doi:10.1371/journal.pone.0137041
- Wheeler, M. A., McGrath, M. J., & Haslam, N. (2019). Twentieth century morality: The rise and fall of moral concepts from 1900 to 2007. *PLOS ONE*, 14(2), e0212267. doi:10.1371/journal.pone.0212267

- Greenfield, P. M. (2013). The changing psychology of culture from 1800 through 2000. *Psychological Science*, 24(9), 1722-1731. doi:10.1177/0956797613479387
- Heuser, R., & Le-Khac, L. (2012). A quantitative literary history of 2,958 nineteenth-century British novels: The semantic cohort method. *Stanford Literary Lab Pamphlet* 4. https://litlab.stanford.edu/LiteraryLabPamphlet4.pdf
- Underwood, T., Bamman, D., & Lee, S. (2018). The transformation of gender in English-language fiction. *Journal of Cultural Analytics*, 3(2). doi:10.22148/16.019
- Hackett, A. P., & Burke, J. H. (1977). *80 Years of Best Sellers, 1895-1975*. R. R. Bowker. ISBN 0835209083. No DOI
- Liberman, M. (2018, October 9). Lexico-cultural decay? *Language Log*. https://languagelog.ldc.upenn.edu/nll/?p=40222
- Google Books Ngram Viewer, corpora en-fiction-2012, en-2012, en-US-2012, en-US-2009. https://books.google.com/ngrams. Queried November 16, 2026; control words November 18, 2026