

Volume 2

LITERATURE REVIEW

Improving Notices Using Psychological, Cognitive, and Behavioral Science Insights

INTRODUCTION

In the National Taxpayer Advocate's Taxpayer Bill of Rights, the *right to be informed* is at the top of the list.¹ To adequately inform taxpayers, the IRS must clearly communicate with taxpayers their rights and obligations. One of the most common forms of correspondence between the IRS and taxpayers is from notices; the IRS sent over 175 million in fiscal year 2018.² The National Taxpayer Advocate has expressed concerns that IRS notices need well-researched makeovers to ensure that they reflect how taxpayers best perceive and comprehend written information.³ Psychological, cognitive science, and behavioral science research informs us of the best ways to design correspondence, such as IRS notices, to adapt to the way people think and understand. Coupled with using plain language,⁴ these insights may advise the IRS of the best ways to alter its notices to improve taxpayer understanding of:

- why the IRS is reaching out to a taxpayer;
- what is the most important information in the notice; and
- how a taxpayer can exercise his or her rights.

In fact, many governmental institutions, including the IRS, have already performed research on the effects of psychology and behavioral science on government programs, including letter and notice design.⁵ Accordingly, the IRS should apply the insights gained from the available research to redesign its notices.

DISCUSSION

The Existing Research in Psychology, Cognitive Science, and Behavioral Science Can Guide IRS Notice Redesign to Emphasize Taxpayer Understanding

Much of the research performed on communications by tax agencies focuses on getting better compliance or increasing tax revenue from citizens.⁶ This includes the IRS, which has attempted to use behavioral science insights with the goal of achieving increased revenue collection from taxpayers.⁷ However, the methods used to achieve better compliance or more revenue may, but do not necessarily,

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- 1 See Taxpayer Bill of Rights (TBOR), www.TaxpayerAdvocate.irs.gov/taxpayer-rights. The rights contained in the TBOR are also codified in the Internal Revenue Code (IRC). See IRC § 7803(a)(3).
 - 2 The number of notices was pulled from Computer Paragraph (CP) and Correspondex letters from the IRS Notice Gatekeeper, notices from the Notice Delivery System not included on the Notice Gatekeeper site, and Individual Master File (IMF) and Business Master File (BMF) balance due notices based on cases being in notice status in the Accounts Receivable Doll Inventory files; see also Siegal+Gale, *Making Paperwork Less Taxing* (May 2011), <https://siegelgale.com/wp-content/uploads/2011/05/Case-Study-IRS.pdf>.
 - 3 See Most Serious Problem: *The IRS Fails to Clearly Convey Critical Information in Statutory Notices of Deficiency, Making it Difficult for Taxpayers to Understand and Exercise Their Rights, Thereby Diminishing Customer Service Quality, Eroding Voluntary Compliance, and Impeding Case Resolution, supra*; Most Serious Problem: *Collection Due Process Notices: Despite Recent Changes to Collection Due Process Notices, Taxpayers Are Still at Risk for Not Understanding Important Procedures and Deadlines, Thereby Missing Their Right to an Independent Hearing and Tax Court Review, supra*; Most Serious Problem: *Math Error Notices: Although the IRS Has Made Some Improvements, Math Error Notices Continue to Be Unclear and Confusing, Thereby Undermining Taxpayer Rights and Increasing Taxpayer Burden, supra*.
 - 4 See Plain Writing Act of 2010, Pub. L. No. 111-274, 124 Stat. 2861 (2010).
 - 5 See, e.g., OECD, *BEHAVIORAL INSIGHTS AND PUBLIC POLICY: LESSONS FROM AROUND THE WORLD* (2017); see also IRS, *Behavioral Insights Toolkit* (2017).
 - 6 See, e.g., Stewart Kettle et. al., *Behavioral Interventions in Tax Compliance: Evidence from Guatemala 27* (World Bank Group, Macroeconomics and Fiscal Mgmt. Global Prac. Group, Policy Research Working Paper No. 7690, 2016); IRS, *Behavioral Insights Toolkit 15* (2017).
 - 7 See, e.g., IRS, *ACS Optimization/RAAS ACS LT16 Notice Redesign Test Pilot Report 5* (Sept. 27, 2017); Research Study: *Further Analyses of "Federal Tax Liens and Letters: Effectiveness of the Notice of Federal Tax Liens and Alternative IRS Letters on Individual Tax Debt Resolution," supra*.

coincide with improved taxpayer understanding of their rights and responsibilities. In fact, poorly designed nudges can actually harm taxpayers. For example, in its LT16 study (the LT16 is an IRS notice informing taxpayers of their unpaid taxes), the IRS failed to consider whether the revenue it collected through various letters and messages driving taxpayers toward online installment agreements (IAs) properly accounted for the taxpayer's ability, or inability, to pay. A TAS study found that nearly 40 percent of individual taxpayers entering into IAs in calendar year 2014 had incomes below their allowable living expenses (ALEs), meaning that many taxpayers were making payments to the IRS, despite the fact that they should have been in Currently Not Collectible (CNC) status.⁸ The IRS must take this into account and ensure that its nudges to improve revenue collection or compliance are not used to the detriment of taxpayers who cannot afford to make payments.

To improve taxpayer understanding, notices should be designed using **plain language** principles, which inform us of the best ways to communicate effectively.⁹ Such principles include adding helpful headings, using word choice that does not include jargon or overly technical words, and guiding the reader through the writing.¹⁰ Similarly, **simplification** of the message, sending more concise messages, and reducing the amount of information recipients must process, improves understanding and engagement.¹¹ The simpler a task is to complete, the more likely it is that people will complete it.¹² People can only handle so much information at a time, so simplification can limit the choices a taxpayer must consider and focus the active decisions taxpayers must make to only the most important ones.¹³

Including too many available choices in a notice can lead to **choice overload**, where “the complexity of the decision problem faced by an individual exceeds the individual's cognitive resources.”¹⁴ This can make people less likely to make a choice or quickly choose one without thinking it through.¹⁵ An effectively **organized** notice can help lessen the effects of choice overload by guiding a reader through it. This concept pairs with **choice architecture**, design that orders and presents the available options a reader has to ease the burden and avoid having the reader make too many choices in a row.¹⁶

Another common behavioral tool that governments use to influence citizens is **nudging**, a method to steer people in a particular direction.¹⁷ In the tax context, nudging is often used to boost revenue collection,¹⁸ but it may also be used to frame notices in ways to boost taxpayer understanding and notice clarity. For example, notices could be designed to nudge people to take the necessary steps, or view

8 National Taxpayer Advocate 2016 Annual Report to Congress vol. 2 54, 60 (TAS Research and Related Studies: *The Importance of Financial Analysis in Installment Agreements (IAs) in Minimizing Defaults and Preventing Future Payment Noncompliance*).

9 Center for Plain Language, *Five Steps to Plain Language*, <https://centerforplainlanguage.org/learning-training/five-steps-plain-language/> (last visited Oct. 2, 2018).

10 *Id.*

11 See Nir Eyal with Ryan Hoover, *HOOKED: HOW TO BUILD HABIT-FORMING PRODUCTS* (2014); David Bholat et. al., *Enhancing Central Bank Communications with Behavioral Insights* 17 (Bank of Eng., Staff Working Paper No. 750, 2018); Owain Service et. al., *THE BEHAVIOURAL INSIGHTS TEAM, EAST FOUR SIMPLE WAYS TO APPLY BEHAVIOURAL INSIGHTS* 4 (2014).

12 See Nir Eyal with Ryan Hoover, *HOOKED: HOW TO BUILD HABIT-FORMING PRODUCTS* (2014).

13 David Bholat et. al., *Enhancing Central Bank Communications with Behavioral Insights* 17 (Bank of Eng., Staff Working Paper No. 750, 2018); IRS, *Behavioral Insights Toolkit* 13 (2017).

14 Alexander Chernev, Ulf Böckenholt & Joseph Goodman, *Choice Overload: A Conceptual Review and Meta-analysis*, 25 J. CONSUMER PSYCHOL. 333, 335 (2015).

15 See *id.* at 334-337.

16 IRS, *Behavioral Insights Toolkit* 21 (2017).

17 See Deloitte Consulting LLP, *Using the Nudge in Tax Compliance: Leveraging Behavioral Insights to Boost Tax Revenue* 9 (2017).

18 *Id.* at 15 (2017).

certain information, in response to the notice. This can be used in conjunction with **reminders** to assist taxpayers with completing the necessary steps to achieve tax compliance.¹⁹

The research shows that seemingly small differences can make large impacts. For example, including information in a notice versus just including a website link to that information can lead to a much higher response rate and likelihood that taxpayers actually read the included information.²⁰ Similarly, **framing** the same information in different ways can influence its interpretation.²¹ Including payment information first, and a note that “nine out of ten people pay their tax on time” in a notice may frame it in a way that leads more taxpayers to pay what they owe. Alternatively, including information about the *right to petition to the U.S. Tax Court*, framed with different focuses (e.g., “you may qualify for free legal assistance” versus “you may have to pay for legal assistance”), may lead to more or less people deciding to petition.

Moreover, the **tone** of a message can influence taxpayers.²² For example, the UK Her Majesty’s Revenue and Customs (HMRC) refers to taxpayers as customers, and generally takes a friendlier tone in its communication.²³ Friendlier, less formal language has been shown to improve taxpayer responsiveness.²⁴ **Personalizing** the message, by including information directly related to a taxpayer, can also increase responsiveness.²⁵ This can be done by determining the **target audience** of a notice and tailoring the message to be most relevant to the issues of that audience, instead of sending out a generic, less **salient**, message.²⁶ Salient points are those that are particularly important to the taxpayer, and in the notice context, these points should be highlighted in a way that captures a taxpayer’s attention so that taxpayers do not gloss over them to their detriment (for example, the deadline date by which the taxpayer must respond to the notice to retain their appeal rights).

Additionally, some research suggests that **typography** design can assist in improved clarity, understanding, and memory.²⁷ The Dutch government undertook a project to design a uniquely government font,²⁸ which would perhaps be useful for the IRS to consider to better ensure a consistent

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- 19 See Deloitte Consulting LLP, *Using the Nudge in Tax Compliance: Leveraging Behavioral Insights to Boost Tax Revenue* 9 (2017); Saugato Datta & Sendhil Mullainathan, *Behavioral Design: A New Approach to Development Policy* 23 (2012).
- 20 See Jeffrey R. Kling et. al., *Comparison Friction: Experimental Evidence from Medicare Drug Plans*, 127 Q. J. Econ. 199, 200-201 (2012).
- 21 THE SAGE HANDBOOK OF SOCIAL PSYCHOLOGY: CONCISE STUDENT EDITION 49 (Michael A. Hogg & Joel Cooper eds., 2007).
- 22 See, e.g., OECD, *Building a Letter: Encouraging Customers About Their Interest-only Mortgages*, in BEHAVIORAL INSIGHTS AND PUBLIC POLICY: LESSONS FROM AROUND THE WORLD 208, 208-209 (2017).
- 23 See, e.g., Her Majesty’s Revenue and Customs (HMRC), *Internal Manual Tax Compliance Risk Management* (updated Mar. 13, 2017), <https://www.gov.uk/hmrc-internal-manuals/tax-compliance-risk-management>.
- 24 See OECD, *Building a Letter: Encouraging Customers About Their Interest-only Mortgages*, in BEHAVIORAL INSIGHTS AND PUBLIC POLICY: LESSONS FROM AROUND THE WORLD 208, 208-209 (2017).
- 25 See Jeffrey R. Kling et. al., *Comparison Friction: Experimental Evidence from Medicare Drug Plans*, 127 Q. J. Econ. 199, 200-201 (2012); David Bholat et. al., *Enhancing Central Bank Communications with Behavioral Insights* 4, 17 (Bank of Eng., Staff Working Paper No. 750, 2018).
- 26 See Center for Plain Language, *Five Steps to Plain Language*, <https://centerforplainlanguage.org/learning-training/five-steps-plain-language/> (last visited Oct. 2, 2018).
- 27 James Hartley, Lindsey Davies & Peter Burnhill, *Alternatives in the Typographic Design of Questionnaires*, 50 J. OCCUPATIONAL ORGANIZATIONAL PSYCHOL. 299, 299 (1977); Kai Kaspar et. al., *A Matter of Font Type: The Effect of Serifs on the Evaluation of Scientific Abstracts*, 50 INT’L J. PSYCHOL. 372, 377 (2015); Thomas Wehr & Werner Wippich, *Typography and Color: Effects of Saliency and Fluency on Conscious Recollective Experience*, 69 PSYCHOL. RES. 138, 146 (2004).
- 28 Designworkplan, *Dutch Government Identity*, <https://www.designworkplan.com/read/rijksoverheid-sans-serif> (last visited Oct. 4, 2018).

image with its notices, given that the IRS's thousands of various notices are written using many differing systems and authors.²⁹

To Effectively Apply the Above Psychological, Cognitive, and Behavioral Science Insights, the IRS Must Test and Experiment to Determine What Are the Most Effective Designs for Its Notices

While the existing research on psychological, cognitive, and behavioral science insights can and should inform the IRS's notice redesign, it is important to test newly designed notices to ensure that they actually improve the notices and enhance taxpayer understanding. Researched principles can work in one context, but fail in others,³⁰ or need tweaking to generate better effects.

The IRS has performed research and tested the effects of some of its newly designed notices, such as the LT16, though the LT16 study was designed with the goals of receiving more revenue, without considering the taxpayer's ability to pay, and reducing taxpayers' phone contacts with the IRS, despite the fact that many taxpayers rely on phone contacts to discuss and resolve their tax problems with the IRS.³¹ Further examination and experimentation with better designed studies, and using the available research can aid the IRS in its future notice redesign and work to the benefit of improved taxpayer understanding.

LITERATURE REVIEW

1. **Alain Samson**, *An Introduction to Behavioral Economics*, <https://www.behavioraleconomics.com/resources/introduction-behavioral-economics/> (last visited Oct. 4, 2018).

“[O]ur minds must be understood relative to the environment in which they evolved. Decisions are not always optimal. There are restrictions to human information processing due to limits in knowledge (or information) and computational capacities.”

“[S]alience, whereby information that stands out, is novel, or seems relevant is more likely to affect our thinking and actions.”

“[T]he salience of options can also be manipulated by rearranging the ... environment.”

“[T]he practice and philosophy behind nudges are not without criticism, since interventions occur without the awareness of the public on both the level of policy implementation and the psychological processes involved.”

2. **Alexander Cherney, Ulf Böckenholt & Joseph Goodman**, *Choice Overload: A Conceptual Review and Meta-analysis*, 25 J. CONSUMER PSYCHOL. 333, 334-337 (2015).

“The term choice overload—also referred to as overchoice—is typically used in reference to a scenario in which the complexity of the decision problem faced by an individual exceeds the individual's cognitive resources (Simon, 1955; Toffler, 1970). In this research, our main focus is

29 See Siegal+Gale, *Making Paperwork Less Taxing* (May 2011), <https://siegalgale.com/wp-content/uploads/2011/05/Case-Study-IRS.pdf>.

30 See, e.g., Holly A. Massett et. al., *A Randomized Controlled Study Comparing the National Cancer Institute's Original and Revised Consent Form Templates*, 39 ETHICS & HUM. RES. 1, 4 (2017).

31 IRS, *ACS Optimization/RAAS ACS LT16 Notice Redesign Test Pilot Report* 5, 15 (Sept. 27, 2017).

on a particular type of choice overload—one in which the decision complexity is caused, at least partially, by the (large) number of available decision alternatives (Iyengar & Lepper, 2000).”

“Offering consumers a large variety of options to choose from can have a two-pronged impact on choice: It can both benefit and hinder choice. The most intuitive benefit, featured prominently in economics research, is that the greater the number of options in the choice set, the higher the likelihood that consumers can find a close match to their purchase goals.”

“[C]ompared to individuals not experiencing choice overload, those experiencing overload are (1) less likely to make a choice from a particular assortment (Iyengar & Lepper, 2000), (2) more likely to reverse their initial choice (Chernev, 2003b), (3) less likely to display a preference for larger assortments (Chernev, 2006), and (4) more likely to choose an option that can be easily justified (Sela et al., 2009).”

“[A] number of decision-task factors—including *time constraints, decision accountability, number of attributes describing each option, and presentation format*—are likely to influence the impact of assortment size on choice overload.”

3. **Canada Revenue Agency, Audit, Evaluation, and Risk Branch, External Administrative Correspondence (EAC) Evaluation Final Report 7, 26-27** (Sept. 2014).

“Plain language, clarity, readability, and understandability as it pertains to written correspondence are dependent on the following basic input elements:

- Content: the selection of information to be communicated
- Structure: how the information is organised, sequenced and linked
- Language: how the information is expressed in words including tone
- Design: the typography, layout and graphic design of the document

Readability must also consider the reader’s response to the document:

- Their attitude and emotional response
- What they know from reading it
- What they are able to do as a result”

“An objective of the UK Her Majesty’s Revenue and Customs (HMRC) is to ensure that correspondence is read, understood, and acted upon.”

“Testing involves focus groups, individual interviews, and discussions with stakeholders which allows them to ask questions about understanding, layout, user-friendliness, and whether they perceive their letters as a call to action (to file, pay, provide information, etc.).”

“Some of the lessons learned by the United Kingdom are consistent with what plain language experts recommend to improve understandability (for example, make it easy, highlight key messages, and use personal language). They found that there is a minute window of opportunity to get a reader’s attention, the average reader has an attention span of 2 minutes, and readers generally focus on headings, boxes, and images.”

4. **Center for Plain Language**, *Five Steps to Plain Language*, <https://centerforplainlanguage.org/learning-training/five-steps-plain-language/> (last visited Oct. 2, 2018).

“Identify and describe the target audience.

Define the target groups that will use the document or website

- List and prioritize top tasks by audience group
- List what people need or need to know to complete the task
- List characteristics of the groups that should influence design (for example, age, computer experience...)”

“Structure the content to guide the reader through it

- Organize the content so that it flows logically
- Break content into short sections that reflect natural stopping points
- Write headings that help readers predict what is coming up”

“Work with the target user groups to test the design and content

Test the design at multiple points

- Were audience needs, such as top tasks, prioritized based on user research?
- Did you test navigation labels and information organization for predictability?
- Did you test the content for readability and understandability?
- Did you test the final product?

Use evidence-based testing strategies

- Were the participants representative of the target groups?
- Did you test your design and content with enough people?
- How was understanding and ability to act measured?
- Was there a before-and-after comparison to demonstrate improvement?

Check that the final product is useful and usable

- Ask readers to describe who and what the document or site is intended for
- Have them show you how they would find the information they want or need
- Ask them to describe key concepts or processes in their own words
- Observe whether target users can finish key tasks easily and confidently
- Note where they stumble or misunderstand and rethink those parts of the site or document”

5. **David Bholat et. al.**, *Enhancing Central Bank Communications with Behavioral Insights* 4, 12, 17 (Bank of Eng., Staff Working Paper No. 750, 2018).

“In this research, we test whether reducing the amount of information in the Bank’s *Inflation Report* summary improves comprehension and trust. In so doing, we both draw on the

behavioural finance literature which has found that reducing the information which individuals need to process improves their engagement.”

“[W]e test whether making the material more relatable to people’s daily lives improves comprehension and trust. For example, previous studies have found that making information relevant to individual circumstances can increase engagement.”

“We find that compared to the Monetary Policy Summary [the control], the Visual Summary improved the average comprehension score by 25% (0.5 points). The Reduced Text Summary improved the average comprehension score by 30% (0.6 points) relative to the Monetary Policy Summary, and the Relatable Summary improved direct comprehension scores by 42% (0.8 points) relative to the Monetary Policy Summary.”

“We found a small but statistically significant difference in trust for participants that read the Relatable Summary.”

6. **Deloitte Consulting LLP**, *Using the Nudge in Tax Compliance: Leveraging Behavioral Insights to Boost Tax Revenue* 9, 13, 15 (2017).

“So what is a Nudge? Its a concept from behavioral science and economics that steers people in particular direction but that also allow them to preserve their freedom of choice and does not impose any significant material incentives.”

“A reminder is a nudge[.] Also a warning.... A subsidy is not a nudge[.] Nor is a fine/jail sentence[.]”

“In 2013, the Ministry of Manpower in Singapore improved its reminder letters by:

1. Simplifying the language used
2. Including a social norm message saying ‘96% of employers pay their levy on time.’
3. Printing the bills on pink paper typically used for debt collection.”

“Adding the sentence ‘nine out of ten people pay their tax on time’ boosted voluntary payments[.]”

7. **Derek M. Jones**, *The 7 ± 2 Urban Legend* 5 (2002).

“Chunking is a common technique used by people to help them remember information. A chunk is a small set of items (the value 4 ± 1 is seen in many studies) having a common, strong, association with each other (and a much weaker one to items in other chunks).”

8. **Designworkplan**, *Dutch Government Identity*, <https://www.designworkplan.com/read/rijksoverheid-sans-serif> (last visited Oct. 4, 2018).

“The Rijksoverheid Sans, an easy to read typeface with a large x-height. This allows maximum legibility for heading text, signage, wayfinding and other forms of visual identity.”

“The name of the typeface is recognizable as “government” and will be used in every way of visual communication. The Rijksoverheid Sans will be used mainly for headings of text and in signage or wayfinding systems.”

9. **Don Norman**, *THE DESIGN OF EVERYDAY THINGS: REVISED AND EXPANDED EDITION* 8-9 (2013).
 “The solution is human-centered design (HCD), an approach that puts human needs, capabilities, and behavior first, then designs to accommodate those needs, capabilities, and ways of behaving. Good design starts with an understanding of psychology and technology. Good design requires good communication ... indicating what actions are possible, what is happening, and what is about to happen. Communication is especially important when things go wrong.... Designers need to focus their attention on the cases where things go wrong, not just when things work as planned.”
 “Human-centered design is a design philosophy. It means starting with a good understanding of people and the needs that the design is intended to meet.”
10. **EOP NSTC**, 2016 Soc. Behav. Sci. Team Ann. Rep. 31.
 “The Earned Income Tax Credit (EITC) is one of the largest refundable credits, sending over \$66 billion in income assistance to more than 27 million working families in 2015 [M]illions of individuals—many of whom do not have children—who may be eligible do not claim the credit each year, either because they file their returns but do not claim the credit, or because they do not file at all.”
 “The IRS, academic researchers, and General Services Administration (GSA) members of SBST tested the impact of mailing notices about tax filing and EITC participation to potentially eligible individuals who did not file a tax return in recent years. Six variants of postcards and brochures that highlighted the benefits of the EITC were sent to individuals. The notices resulted in a modest, but statistically significant, increase in the rate of tax filing (37.8 compared to 36.8 percent), which in turn increased EITC filing rates. Conditional on filing, there were no significant differences in the fraction of individuals claiming the EITC, suggesting that the primary barrier to increasing EITC claims for this population is getting individuals to file a return.”
11. **Eric P. Bettinger et. al.**, *The Role of Simplification and Information in College Decisions: Results From the H&R Block FAFSA Experiment* 1, 3 (Working Paper No. 15361, 2009), <http://www.nber.org/papers/w15361>.
 “As studies of other benefit programs have demonstrated ... a program’s mere existence does not ensure take-up for everyone eligible and interested. Seemingly small differences in sign-up procedures and marketing can lead to large differences in participation.”
 “The analysis suggests that individuals who received assistance with the FAFSA and information about aid were substantially more likely to submit the aid application.”
12. **Erich Kirchler**, *THE ECONOMIC PSYCHOLOGY OF TAX BEHAVIOUR* 130, 134 (2007).
 “Humans are limited information processors. The more complex and less transparent a situation is, the more participants deviate from what the rational model predicts. People often fail to grasp the full range of alternatives in order to select the best, especially in decision-making situations involving risk.”

“Depending on the wording of a decision task, people perceive prospects as losses or gains, and preference orders may consequently be reversed.”

13. **Gabriel D. Carroll et. al.**, *Optimal Defaults and Active Decisions*, 124 Q. J. Econ. 1639, 1641-1642 (2009).

“[D]efaults powerfully influence outcomes without restricting choices[.]”

“Active decision mechanisms are an intriguing, though imperfect, alternative to defaults. On the positive side, active decisions avoid the biased outcomes introduced by defaults because active decisions do not corral agents into a uniform default choice. The active decision mechanism encourages agents to think about an important decision and avoid procrastinating. On the negative side, an active decision mechanism compels agents to struggle with a potentially time-consuming decision—which they may not be qualified to make—and then explicitly express their choice at a time which may be inconvenient.”

14. **Holly A. Massett et. al.**, *A Randomized Controlled Study Comparing the National Cancer Institute’s Original and Revised Consent Form Templates*, 39 IRB: ETHICS & HUM. RES. 1, 4 (2017).

“[T]he aim of this randomized controlled study was to investigate if a more concise consent form resulted in different levels of comprehension and satisfaction among a group of colorectal cancer survivors. The first hypothesis, that knowledge would be higher for the concise group, was not supported: both groups had similarly high knowledge scores.”

“Older age and having more education were key predictors of increased comprehension when other variables were controlled for.”

“The second hypothesis also was not supported: there were no differences in satisfaction scores for the two consent forms.”

“Though the literature indicates that shorter consent forms could result in greater satisfaction, some studies have also found that the length of the consent form has a much lower effect on satisfaction than originally hypothesized.”

15. **IRS**, *Behavioral Insights Toolkit* 13, 21, 24 (2017).

“Having too many choices or decisions can lead to **choice overload** or **decision fatigue**.”

“**Take steps to avoid decision fatigue when important decisions are being made** Also, forms may be redesigned to avoid too many decisions in succession.”

“Changing the way **options are ordered or presented** helps **reduce cognitive burden** and enable individuals to make better choices that are in line with their goals. Choice architecture also includes the use of **active choice** (being forced to make a decision, usually ‘yes or no’) and **defaults** (‘opt-out’ settings).”

“Forms created without considering all aspects of choice architecture could guide users to select options that are not optimal to the mission of an organization or the user—just because it was not implemented intentionally doesn’t mean the architecture of the choices has no effect.”

“Salience is the ability to **command attention** to something by **giving it more weight or putting it in a position** that will capture attention and influence choices.”

“Messages should be matched carefully to their intended audience. Campaigns can be made salient by customizing messages to an individual’s demographic.”

16. **Iva W. Cheung**, *Plain Language to Minimize Cognitive Load: A Social Justice Perspective*, 60 IEEE TRANSACTIONS ON PROF. COMM. 448, 454 (2017).

“Applying plain-language principles is an evidence-based way to reduce cognitive load. Minimizing cognitive load increases the likelihood that people with heavy mental burdens will read and understand the communication.”

17. **James Hartley, Lindsey Davies & Peter Burnhill**, *Alternatives in the Typographic Design of Questionnaires*, 50 J. OCCUPATIONAL ORGANIZATIONAL PSYCHOL. 299, 299 (1977).

“[W]e [the researchers] have argued that text should be printed on predetermined page-sizes (in particular the internationally approved standard sizes); that the vertical and horizontal spacing of text should be rational and consistent; and that space itself should be systematically manipulated to convey the structure of complex text more easily to the reader. We have shown this approach to be cost-effective when applied to the design of complex documents such as a college prospectus (Burnhill *et al.* 1975), to complex text (Hartley & Burnhill, 1976*b*) and to the layout of textbook indexes (Burnhill, Hartley & Davies, 1977).”

18. **Jane Root & Sue Stableford**, *Easy-to-Read Consumer Communications: A Missing Link in Medicaid Managed Care*, 24 J. HEALTH POL. & L. 1, 3-4 (1999).

“What ‘Easy-to-Read’ Means

Writing easy-to-read material requires much more than turning *currently* into *now*, *physician* into *doctor*, or *receive* into *get*. It means thinking carefully about who the audience is in order to determine what is ‘need to know’ information and what is ‘nice to know.’ It means eliminating much extra material that can overfill the page and overwhelm the reader. It means designing the piece with simple, appropriate illustrations that support the message and using twelve- to fourteen-point serif type in the body of the text. It means using lowercase letters (not all capitals), ample margins, and headers to aid organization. The writer must break long lists into shorter ones that are arranged categorically and state information in a sequence that will enable the readers to envision their own actions as they carry out the instructions. And the overall content and design must be friendly, appealing, and culturally appropriate—to gain readers’ attention and increase their retention of important messages.”

19. **Jeffrey R. Kling et. al.**, *Comparison Friction: Experimental Evidence from Medicare Drug Plans*, 127 Q. J. ECON. 199, 200-201 (2012).

“Simply making information available, however, does not ensure consumers will use it. We call *comparison friction* the wedge between the availability of comparative information and consumers’ use of it.”

“[W]e followed the choices made by seniors who participated in an experiment we designed that reduced comparison friction by delivering personalized cost information to seniors via a letter. That personalized information used aspects of the match between consumers and the available plans (specifically, the differences in out-of-pocket costs of the drugs an individual takes) that could be readily observed.... A comparison group was given only the address of this website. The distinction between the groups was that the comparison group had to actively visit a website (or call Medicare’s toll-free number, or seek information from a third party), whereas the intervention group had information delivered to them.... We found large effects of this simple intervention.”

20. **Julie A. Ask**, Forrester Research, *Notifications: Build Your Best Practices. A Step-By-Step Guide to Notification Excellence* 3, 14 (Sept. 28, 2018).

“Elevating convenience improves customer experiences. Notifications can lift the cognitive load from a consumer or eliminate friction in processes both offline and online.”

“**Explain value in plain language.** Articulating the value of notifications along with a promise to use extraordinary discretion in using the tool may seem obvious, but many apps still use generic templates from the OS rather than branded, customized requests that offer details. Be specific and tangible.”

21. **Kai Kaspar et. al.**, *A Matter of Font Type: The Effect of Serifs on the Evaluation of Scientific Abstracts*, 50 INT’L J. PSYCHOL. 372, 377 (2015).

“[T]he present results propose that serifs can have a significant beneficial value with respect to text evaluation.”

“All in all, the present work indicates that serifs lead to a better evaluation of scientific abstracts and their content as far as all other letter features do not change.”

22. **Karen A. Schriver**, *On Developing Plain Language Principles and Guidelines*, in CLEAR COMMUNICATION: A BRIEF OVERVIEW, 55, 65-66 (Katrin Hallik & Kate. H. Whiteside, eds., 2014).

“**Universal principle:** There is a strong relationship between word length, word frequency, and word difficulty. The longer the word, the less frequent it is, and the harder it is to pronounce, the more likely it is to slow readers down and give them difficulty.

Evidence-based universal guideline: To make text easy to understand for most people, favor short words, high-frequency words, and simple words over long words, low-frequency words, and hard words.

Conditional principle: Professional groups may have their own subculture for language and prefer to use words and acronyms that are high frequency for them but low frequency for those outside of their group.

Evidence-based conditional guideline: If you are a member of a group with a special language subculture (*e.g.*, physicians, engineers, lawyers) and writing for the general public, avoid using words that are high-frequency within your group but not for people outside your group.”

23. **MDRC**, *News from the BIAS Project*, BEHAVIORAL BUZZ, Sept. 2015.

“Research has shown that simplifying forms and providing information can increase take-up of government programs. Making messages clearer and easier to understand and streamlining choices can reduce procrastination and make it easier for clients to complete complex paperwork. Clear instructions, few required fields, and visual prompts that draw the eye to key information are examples of techniques that can improve applications and make it less likely that these forms are barriers to service receipt.”

24. **Nace Pusnik et. al.**, *Effect of Typeface, Letter Case and Position on Recognition of Short Words Presented On-screen*, 35 BEHAV. & INFO. TECH. 442, 448 (2016).

“It seems that particular typeface properties, such as difference in stroke width, counter shape, white space and inclusion of serifs, may be crucial for faster word recognition. The important role of letter spacing was also confirmed by many other studies.”

25. **Nelson Cowan**, *The Magical Number 4 in Short-term Memory: A Reconsideration of Mental Storage Capacity*, 24 BEHAV. & BRAIN SCI. 87, 114 (2000).

“The preponderance of evidence from procedures fitting these conditions strongly suggests a mean memory capacity in adults of three to five chunks.”

“The fundamental capacity limit appears to coincide with conditions in which the chunks are held in the focus of attention at one time; so it is the focus of attention that appears to be capacity-limited.”

26. **Nir Eyal with Ryan Hoover**, HOOKED: HOW TO BUILD HABIT-FORMING PRODUCTS (2014).

“[Y]ears of distilled research and real-world experience resulted in the creation of the Hook Model: a four-phase process companies use to form habits. *Through consecutive Hook cycles, successful products reach their ultimate goal of unprompted user engagement, bringing users back repeatedly, without depending on costly advertising or aggressive messaging.*”

“Fogg describes six ‘elements of simplicity’—the factors that influence a task’s difficulty. These are:

Time—how long it takes to complete an action.

Money—the fiscal cost of taking an action.

Physical effort—the amount of labor involved in taking the action.

Brain cycles—the level of mental effort and focus required to take an action.

Social deviance—how accepted the behavior is by others.

Non-routine—according to Fogg, ‘How much the action matches or disrupts existing routines.’

To increase the likelihood that a behavior will occur, Fogg instructs designers to focus on simplicity as a function of the user’s scarcest resource at that moment.”

27. **OECD**, *Building a Letter: Encouraging Customers About Their Interest-only Mortgages*, in BEHAVIORAL INSIGHTS AND PUBLIC POLICY: LESSONS FROM AROUND THE WORLD 208, 208-209 (2017).

“The FCA and the industry wanted to increase engagement from customers with the letters that firms were providing. This was to ensure that customers thought about their repayment plans and to encourage them to contact their providers to discuss potential options.”

“The five letters were:

1. **Control:** Standard letter written by the firm
2. **Riskless:** Removing the standard repossession risk warning (‘Your home may be repossessed if you do not keep up repayments on your mortgage’)
3. **Non-personal:** Removing a table of personal data which included balance and time left on mortgage
4. **Bullets:** Summarising the key information in bolded bullet points at the top of the letter, and
5. **Friendly:** Removing the risk warning and re-writing the letter to be friendlier and more informal in tone.

The firm was able to monitor a number of outcomes including:

- Whether the customer proactively contacted the provider, and
- Whether the customer was open to discussing potential repayment options when contacted by the provider.”

“The results of this trial show that less is more in this context and simplicity is likely to improve response rates. It appears that removing the risk warning on this letter (the warning was not mandated in this case) actually increased the response rate, particularly when combined with a more informal tone. It is possible this is because the risk warning might scare customers and lead them to put their head in the sand rather than engage with the firm.”

28. **OECD**, *Encouraging Customers to Claim Redress*, in BEHAVIORAL INSIGHTS AND PUBLIC POLICY: LESSONS FROM AROUND THE WORLD 205, 205-207 (2017).

“Using insights from behavioral science, the FCA ran a field trial on a real case: a firm that was voluntarily writing almost 200,000 customers about a failing in its sales process. The FCA developed seven amendments to the standard letter sent being sent (sic) by the firm to consumers due redress:

1. **Urgency:** Adding a message to ‘act quickly’ to a plain envelope
2. **Visual cue:** Using the FSA logo in the letter head
3. **Salience:** Replacing the two bullet points at the top the letter with more salient bullet points
4. **Simplification:** Making the body of the letter simpler and more concise, by reducing the text by 40%
5. **Information/Time-Cost/Ease:** Including a sentence in bold explaining that the claims process would only take five minutes

6. **Personalisation** with CEO signature: Using the firm CEO’s signature to sign the letter, instead of a generic ‘Customer Team’

7. **Reminder**: Sending a second letter three to six weeks after the first.”

“The best combination—using **salient bullets** and a **reminder** letter—improved the response rate from 1.5% (the control) to almost 12%.”

29. **Owain Service et. al.**, *The Behavioural Insights Team: EAST: Four Simple Ways to Apply Behavioural Insights* 4 (2014).

“Make it Easy

- *Harness the power of defaults.* We have a strong tendency to go with the default or pre-set option, since it is easy to do so. Making an option the default makes it more likely to be adopted.
- *Reduce the ‘hassle factor’ of taking up a service.* The effort required to perform an action often puts people off. Reducing the effort required can increase uptake or response rates.
- *Simplify messages.* Making the message clear often results in a significant increase in response rates to communications. In particular, it’s useful to identify how a complex goal can be broken down into simpler, easier actions.”

30. **Peter M. Tiersma**, *Communicating with Juries: How to Draft More Understandable Jury Instructions* 3-4, 16 (2009), <http://ssrn.com/abstract=1507298>.

“Use Logical Organization”

- *Put the most important things first.*
- *Put the general before the specific.*
- *Put the overall statement or rule before any conditions or exceptions.”*

“[U]se headings. At least when a jury is given a written copy, having a heading or title at the top of each instruction will help jurors find the relevant instructions during their deliberations. Numbered lists are also useful. Whenever the jury is given various elements or factors to consider—the elements of a crime, for example, or factors to consider in determining the believability of witnesses—they should be presented in a list.”

“Give Jurors Clear Guidance on How to Go About Their Task”

“Quite often, instructions consist of a jumble of abstract legal principles with little concrete guidance on how to go about the nitty-gritty of reaching a verdict and filling out the verdict form. Of course, unlike their British colleagues, American judges are usually discouraged from commenting on the evidence and explaining how it relates to the jurors’ decision. Still, judges in most jurisdictions should be able to give jurors some concrete advice on how to proceed. Thus, in a breach-of-contract case the judge might instruct jurors that when they begin to deliberate, they should first decide whether there was a valid contract. If not, they should return a verdict for the defendant. On the other hand, if they decide that there was a valid contract, they will then need to decide whether it was breached. If not, verdict for the defense. If so, proceed to the issue of mitigation of damages. And so forth.”

31. **Robert P. Charrow & Veda R. Charrow**, *Making Legal Language Understandable: A Psycholinguistic Study of Jury Instructions*, 79 COLUM. L. REV. 1306, 1358-1359 (1979).
- “This study set out to test three hypotheses: (1) that the standard jury instructions used in this study—when viewed as discourse—are not well understood by jurors; (2) that certain linguistic constructions are largely responsible for the incomprehensibility; and (3) that if the problematic linguistic constructions are appropriately altered, comprehension will dramatically improve, notwithstanding the “legal complexity” of any given instruction. The results ... support these hypotheses.”
- “The study provides evidence that there is more to legal language than merely ‘jargon’—an esoteric vocabulary. Certain grammatical constructions and discourse structures found in the jury instructions appear to be recurring elements in legal language. Although these constructions are found in ordinary usage, they appear with much greater frequency in legalese and tend to characterize it as a distinct sublanguage. The results of the study also indicate that these constructions—rather than the legal complexity of the jury instructions—were responsible for comprehension problems.”
- “The results of this study—in conjunction with the results of other studies of jury instruction comprehension—underscore the fact that jury instructions are not written for their major intended audience.”
32. **Saugato Datta & Sendhil Mullainathan**, *Behavioral Design: A New Approach to Development Policy* 23 (2012).
- “[F]ollowing through on an intention requires a person to remember to take several steps, and it is easy to forget or neglect to do one of them. But missing a single step often derails the whole process. A timely reminder goes a long way towards mitigating these problems.”
33. **Siegel+Gale**, *Making Paperwork Less Taxing* (May 2011), <https://siegelgale.com/wp-content/uploads/2011/05/Case-Study-IRS.pdf>.
- “The IRS sends out more than 200,000,000 notices a year. A taxpayer can receive any one of over 1,000 different notices created by 120 different authors generated by more than 40 different systems. No wonder the public is often confused—and frustrated.”
- “[T]he differences among many letters reflected internal IRS structure, as opposed to taxpayer needs. Yet, despite the systems-driven structure, letter production did not take advantage of existing technological capabilities. And from a communications perspective, many letters lacked a logical framework and a consistent voice.”
34. **Steven J. Sherman et. al.**, *Social Interference and Social Memory: The Interplay Between Systems*, in *THE SAGE HANDBOOK OF SOCIAL PSYCHOLOGY: CONCISE STUDENT EDITION* 49 (Michael A. Hogg & Joel Cooper eds., 2007).

“Framing effects on memory

Framing refers to the idea that identical information can be presented in different ways such that there is a different focus or a different salience of certain aspects of information (Tversky and Kahneman, 1981). Different framings lead to different interpretations of information and thus

to different inferences about the value of certain decisions, the motives or goals of actors, and the attitudes or beliefs of those actors. Framing messages or events with a focus on gains versus losses (Tversky and Kahneman, 1981), as promoting or preventing certain outcomes (Higgins, 1998), or as focusing on the positive aspects of doing something versus the negative aspects of not doing something (Rothman and Salovey, 1997) have all been shown to have effects on subsequent judgments and decisions. Because different frames make salient certain aspects of information presented, allowing for different inferences, memory for information can be facilitated or inhibited, and biases in memory in a direction consistent with the framing are to be expected.”

35. **Stewart Kettle et. al.**, *Behavioral Interventions in Tax Compliance: Evidence from Guatemala* 27 (World Bank Group, Macroeconomics and Fiscal Mgmt. Global Prac. Group, Policy Research Working Paper No. 7690, 2016).

“The trial presented in this paper ... [explores] the effects of tax reminders on declarations, rate of payment, and payment amount. A key contribution of this study is to show that social norms and the deliberate choice message can be effective at increasing both declaration and payment in the context of a developing country, for both individuals and firms.”

“The best performing treatments were a deterrent message framing non-declaration as an intentional and deliberate choice, rather than oversight (designed to overcome status quo bias), and a social norms message, which referred to the 64.5 percent of taxpayers who had already paid this tax (designed to nudge taxpayers to join the status quo). These letters increased the rate of payment by 1.7 and 1.5 percentage points, respectively, compared to the control condition ... [and] also increased the average amount paid conditional on paying.”

36. **Susan Weinschenk**, *100 Things You Should Know About People: #33: Bite-Sized Chunks Of Info Are Best*, THE TEAM W BLOG (May 7, 2010), <https://www.blog.theteamw.com/tag/progressive-disclosure/>.

“Humans can only process small amounts of information at a time (consciously that is... the estimate is that we handle 40,000,000 pieces of information every second, but only 40 of those make it to our conscious brains). One mistake that web sites make is to give too much information all at once.”

“There is no chunking ... there is not progressive disclosure. It’s just all the information thrown on the page all at once. The result? You don’t read it, you just leave.”

37. **Susan Weinschenk**, *The Psychologist’s View of UX Design*, UX MAGAZINE, May 19, 2010, <https://uxmag.com/articles/the-psychologists-view-of-ux-design>.

- “It is better to show people a little bit of information and let them choose if they want more details. The fancy term for this is progressive disclosure.”
- “People can only look at so much information or read so much text on a screen without losing interest. Only provide the information that’s needed at the moment (see progressive disclosure above).
- Make the information easy to scan.
- Use headers and short blocks of info or text.”

- “If pages are cluttered people can’t find information. Use grouping to help focus where the eye should look.
- Things that are close together are believed to ‘go’ together.”

38. **Thomas Wehr & Werner Wippich**, *Typography and Color. Effects of Salience and Fluency on Conscious Recollective Experience*, 69 PSYCHOL. RES. 138, 146 (2004).

“[T]he present study provides information about the impact of two stimulus attributes on recollective experience. It was observed that words written in unusual typography can stimulate a more detailed and clear memory. The same effect of stimulus salience on recollective experience was evoked by presentation of colored words in combination with the task to imagine the described object in that color.”

39. **William H. DuBay**, *The Principles of Readability* 2, 56 (2004).

“Many experts, through much research, have compiled golden rules of documentation writing. These rules apply regardless of medium:

- Use short, simple, familiar words
- Avoid jargon.
- Use culture-and-gender-neutral language.
- Use correct grammar, punctuation, and spelling.
- Use simple sentences, active voice, and present tense.
- Begin instructions in the imperative mode by starting sentences with an action verb.
- Use simple graphic elements such as bulleted lists and numbered steps to make information visually accessible.”

“The research on literacy has made us aware of the limited reading abilities of many in our audience. The research on readability has made us aware of the many factors affecting their success in reading. The readability formulas, when used properly, help us increase the chances of that success.”