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Words, Words, Words: Participants Do Not Read Consent Forms in Communication Research

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Words, words, words: participants do not read consent forms in communication research

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ABSTRACT

Informed consent is an essential part of conducting human subjects research; but its utility is dependent on participants actually reading the consent forms provided. This research conducted secondary analysis of data (N = 1,283) to assess how long participants spent on the consent forms. Participants spent an average of 35.4 seconds on consent documents: not a nonsignficant amount of time (i.e., different from 0 seconds), but insufficient to read or even skim consent forms. Women spent slightly less time on consent forms. Neither the length nor readability of a consent form predicted time spent reading, and neither readability nor gender moderated the relationship between word count and time spent reading. Results suggest participants in communication studies do not spend enough time on a consent document to be able to read it, and therefore modern practices of informed consent do not ensure informed participation in research.

KEYWORDS

Research ethics; consent; word count; reading level; institutional review boards

"What do you read, my lord?" - Polonius

"Words, words, words." - Hamlet

Hamlet, Act II, Scene 2

Informed consent is essential to research involving human subjects, serving as a vital safeguard for participant autonomy and safety. As institutional Review Boards (IRBs) and their equivalents continue to abdicate their roles as ensuring participant safety in favor of becoming litigiphobic protectors of their institutions (Carr, 2015; Hammerschmidt & Keane, 1992), the onus falls on researchers to ensure participants are aware of the nature and potential risks of the research in which they are participating. One means of ensuring participants are informed is consent forms, although they are often poorly attended to by participants, raising questions about their efficacy. Amid the increasing research demonstrating participants typically have low recall or awareness of the contents of consent forms is an even more fundamental issue: Whether participants even read informed consent. If participants' poor understanding of informed consent forms is not due to their poor attention or recall skills, but instead due to not even attending to consent documents, researchers may need

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to find new ways to let participants know about the research in which they are taking part, beyond the bureaucratically-necessary consent form. Analyzing data collected from eight studies over a span of three years, this study explores the time participants spend regarding consent documents. Based on this behavioral data, this research can inform future research practices, helping communication scholars go beyond institutional mandates to find mechanisms for informed consent that may actually fulfill their ethical purpose.

Purpose and efficacy of informed consent

In most Western societies, one means by which participants' safety is maintained is by ensuring they are aware they are participating in a research study and knowledgeable of the potential risks involved in that research. In the United States, federal regulations require subjects to read (and acknowledge, often via a signature) a consent document prior to their involvement as a research subject (Code of Federal Regulations, 2009). Similar legal and ethical requirements exist in Europe (European Parliament, 2016), Australia (National Health and Medical Research Council, 2023), Singapore (Health Sciences Authority, 2021), and elsewhere. However, merely presenting a consent form does not ensure consent is voluntary or informed (Gray, 1975), even if signed.

The impotence of informed consent is well-documented: Subjects frequently fail to recall the content of consent documents (Perrault & McCullock, 2019; Wexler et al., 2022), including the potential harms of a study (Sherlock & Brownie, 2014), even immediately after consenting. Many scholars (e.g., Albala et al., 2010; Paasche-Orlow et al., 2003) have suggested such inattentiveness may be attributed to the length and legalese that plague many consent forms. Though common guidelines proffer consent documents should be readable and accessible (National Institutes of Health, 2011), IRBs' demanded inclusion of litigiphobic language and boilerplate statements have increased the length and reading level of consent forms over time (Albala et al., 2010) without affecting participant safety (Hammerschmidt & Keane, 1992). Shortening IRB forms can help marginally, but still few participants recall key study details (Perrault & Nazione, 2016).

One explanation for the low efficacy of informed consent is that subjects simply do not read consent documents. Studies into reading websites' privacy policies and terms of services (Obar & Oeldorf-Hirsch, 2020; Steinfeld, 2016) and consent forms for clinical medical studies (Sharp, 2004; Vural & Bozkurt, 2019) reveal individuals do not actually read forms. Social science research asking participants to self-report whether they read, skimmed, or did not read consent forms similarly reveals less than 10% of the individuals admit to reading consent forms fully, carefully, and/or for comprehension (Perrault & Nazione, 2016, 2018); with most indicating they either skimmed or skipped

the consent form. We extend this line of research, further exploring whether communication participants even read informed consent documents.

Do communication participants even read informed consent?

As self-reports (e.g., asking whether participants read a consent form) can introduce social desirability response bias, behavioral indicators of participants' actual actions–especially those that can be discreetly captured by computer systems–can be stronger operationalizations of a construct (Neuberger, 2016). Consequently, we consider whether participants spend enough time on a consent document to read all of the words in the document as another means of determining whether they read or skimmed. By assessing whether the time spent is sufficient for thorough reading, we can infer whether participants are likely to have read and comprehended the consent information, thereby evaluating the effectiveness of informed consent practices in ensuring truly informed participation. If, for example, a reader is asked to read a 1,000-word document and reads at 200 words per minute, spending ~5 minutes reading could indicate the reader actually read all the words on the page. Even more directly, a participant spending significantly *less* time on a consent document than needed to read it (e.g., 1 minute) can be presumed to have *not* read. Our initial hypothesis proposes participants do not spend enough time on consent documents to *read* all of the words, relative to the average adult reading speed. The average silent reading rate for adults in English is 238 words per minute (wpm) for nonfiction (Brysbaert, 2019). Therefore:

H1: Communication participants spend significantly less time on informed consent documents than would be required by the average reading speed (i.e., 238 wpm).

Rather than fully reading consent forms, participants may simply skim them, as they often self-report doing (Perrault & Keating, 2018; Perrault & Nazione, 2016). Skimming is a form of *mindless reading*, in which an individual's eyes move across the words while thinking of something else and not processing what's being read, resulting in the reduced or omitted comprehension of what was read (Schad et al., 2012). For example, skimming that 1,000-word document at 500 wpm, spending ~2 minutes could indicate they skimmed the entire document. Our second hypothesis thus proposes participants do not spend enough time on consent documents to *skim* all of the words, relative to the average adult's fast skimming speed. Skimming, enables readers to get through text with the speed ranging around 500–750 wpm and moderate comprehension (Rayner et al., 2016). Formally:

H2: Communication participants spend significantly less time on informed consent documents than would be required by the fastest skimming speed (i.e., 750 wpm).

Finally, participants may simply not attend to or read consent documents in any meaningful way, due to apathy, lack of concern of consequences, or being inundated with repetitive standardized language across multiple studies. If a participant is asked to read a 1,000-word document and does not do so, the reader will simply advance ahead mindlessly without attempting to read any of the words on the page, spending a negligible amount of time (i.e., 0 minutes) on a consent form. Consequently, our third hypothesis proposes participants do not spend *any* meaningful time on consent documents. Formally:

H3: Communication participants spend a nonsignficant amount of time on online informed consent documents.

Readability and gender as moderators of time spent reading informed consent

A final way to consider the degree to which participants read consent documents is as a function of the document itself. Building off the hypotheses above, if participants *are* reading the consent document, the document's word count should generally predict time spent reading the consent form, as longer forms require longer to read (Sharp, 2004). This direct relationship is expected to be moderated by two additional factors. First, the readability of the document should moderate the relationship between the words in the document and the time spent reading, as more complex sentence structures and erudite words require additional time to read and process (Obar & Oeldorf-Hirsch, 2020). Second, as prior research has found women are more likely to read consent forms than men (Webb & Taylor, 2003), gender likely also moderates the relationship between words in the document and time spent reading. Formally:

H4: Length of consent document positively relates to time spent reading the document; and this relationship is moderated by the document's (H4a) readability and (H4b) the gender of the reader.

Method

Procedure & participants

Secondary analysis was conducted on data collected over the course of three years (2021–2023) across eight different online studies conducted by

the last author. Studies addressed an array of topics and recruited several samples (i.e., convenience sampling, university research pool, Prolific sampling) from multiple regions (e.g., Midwest USA, Belgium, English-speaking countries). Consent documents were run through three different IRBs, two in the USA and one in Europe; and all were determined "exempt" (or its equivalent) by IRB1. Participants ($N = 1{,}283$) were 28.29 ($SD = 10.68$) years old and self-reported their gender: ($n_{\text{female}} = 797$; $n_{\text{male}} = 407$; $n_{\text{trasngender}} = 9$; $n_{\text{self-identified}} = 19$).

Data

Attributes for each of the eight studies' consent documents were obtained using Microsoft Word 2024. Word has been used in prior research as it serves as an effective preliminary tool for scanning consent forms (Walters & Hamrell, 2008). *Word count* reflects the total words of each consent form ($M = 547.62$, $SD = 110.52$, range: 428–730). The *readability* of each consent form was operationalized via the Flesch Reading Ease score ($M = 34.41$, $SD = 7.77$). The Flesch Reading Ease test rates text on a 100-point scale, with the higher the score indicating greater ease of understanding.

For each participant, *time spent* on the consent document was automatically captured in the survey engine via an unseen timer. Time was initially captured in seconds and converted to minutes ($M = .59$, $SD = 1.62$). Additionally, participants were asked to self-identify their age and gender.

Analysis

The first three hypotheses make predictions about the participants' *read speed* of a consent document relative to specific benchmarks: (H1) average reading speed–238 wpm, (H2) skimming speed–750 wpm, and (H3) not reading at all. A paired-samples *t*-test revealed participants spent significantly less time on their consent document ($M = .59$, $SD = 1.62$) than they would need to *read* the document at 236 wpm ($M = 2.30$, $SD = .46$), $t(1282) = -36.83$, $p < .001$, supporting H1. A second paired-sample *t*-test revealed participants spent significantly less time on their consent document than they would need to *rapidly skim* the document at 750 wpm ($M = .73$, $SD = .15$), $t(1282) = -3.20$, $p = .001$, supporting H2. Finally, a one-sample *t*-test revealed that the time participants spent on their consent document did differ significantly from 0 minutes, $t(1282) = 12.93$, $p < .001$; therefore, H3 was rejected.

H4 predicts a double-moderation, tested using Hayes (2020) PROCESS macro (v.3.3; model 2), using 5,000 bootstrap samples, including words in the consent document as the independent variable, minutes on the consent form as the dependent variable, and the document's Flesch Reading Ease score and the participant's gender (dummy-coding female as 1 and all others as 0) as two moderators (Figure 1). The model was significant, $F(5, 1277) = 3.93$, $p = .002$ R^2

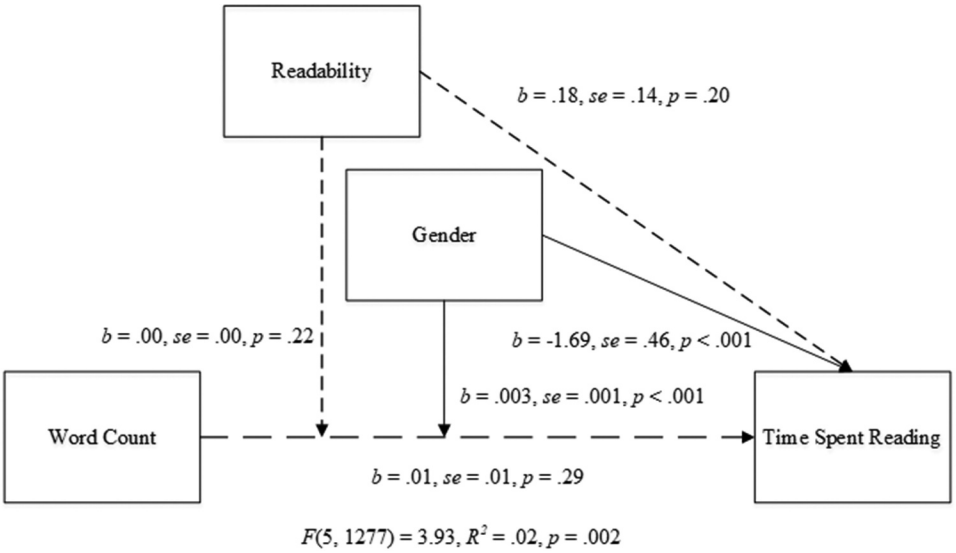

Figure 1. Results of double-moderation predicted by H4. "Gender" was dummy coded for 1 = female, 0 = not female based on participant self-identification.

= .02. Neither *word count*, $b = .01$, $t[1277] = 1.07$, $p = .29$, or *Flesch score*, $b = .18$, $t[1277] = 1.29$, $p = .20$, had a significant main effect; however, *females* spent less time on consent documents, $b = -1.69$, $t[1277] = -3.65$, $p < .001$. *Readability* did not moderate the relationship between word count and time on consent form, $b = .00$, $t[1277] = -1.22$, $p = .22$; but being *female* did have a moderating effect, $b = .003$, $t[1227] = 3.54$, $p < .001$. These results suggest the rejection of H4 and the moderating effects of H4a and H4b.

Discussion

Informed consent is a crucial component of human subject research, but it is predicated on participants actually being made knowledgeable about the research in which they are being asked to participate. These findings extend prior research that indicated participants do not carefully read consent forms, evidencing participants do not spend sufficient time on consent documents to read (or even skim) them at all. Document length and readability did not further predict the time spent reading.

Prior research has suggested most (40%-80%; Perrault & Nazione, 2016; Perrault & Keating, 2018) participants at least skim a consent document. The behavioral evidence of the present work suggests those self-reports may be inflated: Participants here did not spend enough to read (H1) or even quickly skim (H2) the consent document. If participants did read the consent form at the time they used it, they did so at an average of 4,712.92 (SD = 4,126.58) wpm, unrealistically faster than the average reading (238 wpm) or skimming (750

wpm) speeds. Participants may simply view the consent form as a formality, rather than an essential part of their involvement in the research, leading them to skip the document. Consequently, prior self-report measures may impose a social desirability bias, overestimating how many participants are reading or skimming consent documents.

Moreover, properties of the consent form itself did not directly relate to time spent reading. These results extend previous findings in the medical field (Vural & Bozkurt, 2019), revealing no relationship between the readability of a document and whether a participant reads a consent form into the social sciences. Consent forms in this research were shorter but just as linguistically complex as in medical studies2; but neither of these document factors had any bearing on whether or not the forms were read, perhaps undercutting the NIH's (2011) recommendations for consent form readability. The one factor that was revealed to affect read time was gender. Women did spend longer on the consent page, counter to Webb and Taylor's (2003) psychology study. Though there was a direct relationship with gender, there was no relationship between word count and reading time for gender to moderate, as-hypothesized.

So what did participants do with their average 35 seconds on the consent page? One potential problem is that it simply took participants 35 seconds to scroll to the bottom to find and click the button to begin the study. Alternately, participants perhaps used this minimal amount of time to read more selectively. Fitzsimmons et al. (2020) noted readers use hyperlinks as markers to suggest important information and navigate through the text efficiently and effectively. Participants may likewise use heuristics to quickly navigate consent forms, such as using subheadings in forms as anchors to navigate and seek especially problematic or unexpected sections, then rapidly consenting when such non-normative headers are not found. These possibilities are all beyond the scope of the present data, but merit additional research.

These results do demonstrate a low level of engagement with informed consent documents that raises ethical concerns regarding the validity of participants' informed consent. If participants do not adequately understand the risks and procedures involved in a study, their autonomy and safety may be compromised (Gray, 1975). Researchers should consider strategies to ensure that participants are genuinely informed and able to provide voluntary consent, potentially supplementing IRB-required forms that are lengthy and complex texts (and thus intimidating; Krousel-Wood et al., 2006) with multimedia or interactive tools that may better-engage participants in the consent process.

Future directions

Several limitations should be acknowledged and potential future scholarly steps identified. First, this study focused on time spent reading consent documents in their entirety, without considering whether certain components of the consent

form were read. It may be that participants only read certain sections (e.g., potential risks, benefits) without reading others. Future work may employ eye tracking (e.g., Steinfeld, 2016) to assess *reading* directly, as well as to consider the parts of consent forms on which participants may and may not focus, or whether the limited time spent is simply to sign or scroll to accept. Second, though this research reflects several typical exempt communication studies and consent forms subjected to three institutions' ethics reviews, these findings do not reflect all types of communication research (especially higher risk studies that may be subjected to "expedited" or "full" review) nor does it reflect the breadth and capriciousness of institutional oversight and involvement (see Carr, 2015). Future work should consider higher-risk communication research, which may prompt participants to engage with consent documents more deliberately.

Conclusion

The medical field, where the ethical imperative to ensure full comprehension is well-documented (Check et al., 2013), has warned that participants are not attending to or critically reading consent documents (e.g., Sharp, 2004; Vural & Bozkurt, 2019), undercutting the value of informed consent. This study extends that concern into communication research, evidencing participants are not spending sufficient time on consent forms to be considered *informed* participants. For many low-risk studies (e.g., surveys of general media use and focus groups about perceptions of adverts), this may not be an egregious ethical concern. However, scholars conducting higher-risk studies (e.g., experiments of risky behaviors and interviews about traumatic experiences) should be mindful. Typical consent procedures, even if "approved" by institutional review boards, may still be impotent in informing participants about the nature of research in which they are involved. Communication researchers may need to supplement organizational requirements, taking steps independently to ensure participants are fully informed and aware of the research and risks in which they engage.

Notes

1. It is worth noting the irony of IRB determining a study "exempt," as such a categorization would mean the research should not have needed to have been submitted to or overseen by IRB.
2. The reading level of the consent documents in the present research (Flesch-Kincaid grade level: $M = 13.53$ grade, $SD = 1.82$) was actually higher than that of consent documents in medical/clinical trials ($M_{\text{readability}} = 11.6$ grade; Larson et al., 2015), $t(1282) = 38.03$, $p < .001$.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Open scholarship

This article has earned the Center for Open Science badge for Open Data. The data are openly accessible at https://10.17605/OSF.IO/Z4BY3

References

Albala, I., Doyle, M., & Appelbaum, P. S. (2010). The evolution of consent forms for research: A quarter century of changes. *IRB: Ethics & Human Research*, 32(3), 7–11.

Brysbaert, M. (2019). How many words do we read per minute? A review and meta-analysis of reading rate. *Journal of Memory and Language*, 109, article 104047. https://doi.org/10.1016/j.jml.2019.104047

Carr, C. T. (2015). Spotlight on ethics: Institutional review boards as systemic bullies. *Journal of Higher Education Policy & Management*, 37(1), 14–29. https://doi.org/10.1080/1360080X.2014.991530

Check, D. K., Weinfurt, K. P., Dombeck, C. B., Kramer, J. M., & Flynn, K. E. (2013). Use of central institutional review boards for multicenter clinical trials in the United States: A review of the literature. *Clinical Trials*, 10(4), 560–567. https://doi.org/10.1177/1740774513484393

Code of Federal Regulations. (2009). *Title 45 – public welfare C.F.R. § 46 – protection of human subjects*. United States Congress.

Fitzsimmons, G., Jayes, L. T., Weal, M. J., Drieghe, D, & Whitford,V. (2020). The impact of skim reading and navigation when reading hyperlinks on the web. *PLoS ONE*, 15(9), e0239134. https://doi.org/10.1371/journal.pone.0239134

Gray, B. H. (1975). An assessment of institutional review committees in human experimentation. *Medical Care*, 13(4), 318–328. https://doi.org/10.1097/00005650-197504000-00004

Hammerschmidt, D. E., & Keane, M. A. (1992). Institutional review board (IRB) review lacks impact on the readability of consent forms for research. *The American Journal of the Medical Sciences*, 304(6), 348–351. https://doi.org/10.1097/00000441-199212000-00003

Hayes, A. F. (2020). *Introduction to mediation, moderation, and conditional process analysis* (3rd ed.). Guilford Press.

Health Sciences Authority. (2021, October 12). *Conducting clinical trials - informed consent*. https://www.hsa.gov.sg/clinical-trials/conducting/informed-consent

Krousel-Wood, M., Muntner, P., Jannu, A., Hyre, A., & Breault, J. (2006). Does waiver of written informed consent from the institutional review board affect response rate in a low-risk research study? *Journal of Investigative Medicine*, 54(4), 174–179. https://doi.org/10.2310/6650.2006.05031

Larson, E., Foe, G, and Lally, R. (2015). Reading level and length of written research consent forms. *Clinical and Translational Science*, 8(4), 355–356. https://doi.org/10.1111/cts.12253

National Health and Medical Research Council. (2023). *National statement on ethical conduct in human research*. http://www.nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2023

National Institutes of Health. (2011). *How do I develop consent forms and who reviews them*. https://www.nhlbi.nih.gov/research/funding/research-support/crg/funding/consent-forms.htm

Neuberger, L. (2016). Self-reports of information seeking: Is social desirability in play? *Atlantic Journal of Communication*, 24(4), 242–249. https://doi.org/10.1080/15456870.2016.1208661

Obar, J. A., & Oeldorf-Hirsch, A. (2020). The biggest lie on the internet: Ignoring the privacy policies and terms of service policies of social networking services. *Information Communication & Society*, 23(1), 128–147. https://doi.org/10.1080/1369118X.2018.1486870

Paasche-Orlow, M. K., Taylor, H. A., & Brancati, F. L. (2003). Readability standards for informed-consent forms as compared with actual readability. *New England Journal of Medicine*, 348(8), 721–726. https://doi.org/10.1056/NEJMsa021212

Perrault, E. K., & Keating, D. M. (2018). Seeking ways to inform the uninformed: Improving the informed consent process in online social science research. *Journal of Empirical Research on Human Research Ethics*, 13(1), 50–60. https://doi.org/10.1177/1556264617738846

Perrault, E. K., & McCullock, S. P. (2019). Concise consent forms appreciated—still not comprehended: Applying revised common rule guidelines in online studies. *Journal of Empirical Research on Human Research Ethics*, 14(4), 299–306. https://doi.org/10.1177/1556264619853453

Perrault, E. K., & Nazione, S. A. (2016). Informed consent—Uninformed participants: Shortcomings of online social science consent forms and recommendations for improvement. *Journal of Empirical Research on Human Research Ethics*, 11(3), 274–280. https://doi.org/10.1177/1556264616654610

Rayner, K., Schotter, E. R., Masson, M. E., Potter, M. C., & Treiman, R. (2016). So much to read, so little time: How do we read, and can speed reading help? *Psychological Science in the Public Interest*, 17(1), 4–34. https://doi.org/10.1177/1529100615623267

Regulation (EU) 2016/679 of the european parliament and of the council, chapter 2. (2016). https://www.legislation.gov.uk/eur/2016/679/article/7

Schad, D. J., Nuthmann, A., & Engbert, R. (2012). Your mind wanders weakly, your mind wanders deeply: Objective measures reveal mindless reading at different levels. *Cognition*, 125(2), 179–194. https://doi.org/10.1016/j.cognition.2012.07.004

Sharp, S. M. (2004). Consent documents for oncology trials: Does anybody read these things? *American Journal of Clinical Oncology*, 27(6), 570–575. https://doi.org/10.1097/01.coc.0000135925.83221.b3

Sherlock, A., & Brownie, S. (2014). Patients' recollection and understanding of informed consent: A literature review. *ANZ Journal of Surgery*, 84(4), 207–210. https://doi.org/10.1111/ans.12555

Steinfeld, N. (2016). "I agree to the terms and conditions": (How) do users read privacy policies online? An eye-tracking experiment. *Computers in Human Behavior*, 55(B), 992–1000. https://doi.org/10.1016/j.chb.2015.09.038

Vural, Ç., & Bozkurt, P. (2019). Do our patients read informed consent forms? *Turkiye Klinikleri Journal of Medical Ethics*, 27(3), 179–185. https://doi.org/10.5336/mdethic.2019-66036

Walters, K. A., & Hamrell, M. R. (2008). Consent forms, lower reading levels, and using Flesch-Kincaid readability software. *Drug Information Journal: DIJ/Drug Information Association*, 42(4), 385–394. https://doi.org/10.1177/009286150804200411

Webb, N. E., & Taylor, E. D. (2003). To read or not to read: The usefulness of informed consent. *Modern Psychological Studies*, 9(1), 22–25. https://scholar.utc.edu/mps/vol9/iss1/4/

Wexler, A., Choi, R. J., Ramayya, A. G., Sharma, N., McShane, B. J., Buch, L. Y., Donley-Fletcher, M. P., Gold, J. I., Baltuch, G. H., Goering, S., & Klein, E. (2022). Ethical issues in intraoperative neuroscience research: Assessing subjects' recall of informed consent and motivations for participation. *AJOB Empirical Bioethics*, 13(1), 57–66. https://doi.org/10.1080/23294515.2021.1941415