

Dynamics of Participating in Video Survey Interviews

Andrew L. Hupp¹, Frederick G. Conrad¹,
Kallan M. Larsen², Michael F. Schober³,
Brady T. West¹ & Makenna Harrison¹

¹ *University of Michigan*

² *University of North Carolina at Chapel Hill*

³ *New School for Social Research*

Abstract

Survey researchers have begun to conduct survey interviews by video. This study investigates participation, i.e., starting and completing, two types of video survey interviews, those conducted live by a human interviewer and those in which a video-recorded interviewer asks questions in a web survey; the results are compared to outcomes from a conventional text-based web survey. We invited sample members to participate in either (a) a live video interview, (b) a prerecorded video interview, or (c) a conventional text-based web survey, recruiting them from two different opt-in (non-probability) sample sources. To participate in a live video interview, sample members were required to schedule the interview and show up at the appointed time. The need to schedule and show up created an obstacle to starting the interview, especially for those used to text-based web surveys, which can be started by clicking a link when convenient. The results indicate that, of those invited to a live video interview, about 10% scheduled an appointment, although this differed substantially by sample source. Of those who scheduled an interview, about half showed up to start it. Once these sample members started the live video interview, almost all finished. In contrast, sample members who started prerecorded video interviews broke off at much higher rates than did those in the two other modes. This was especially true for respondents familiar with conventional text-based web surveys. This article discusses implications and recommendations for how researchers might increase participation for both types of video interviews and adapt them to the population being studied.

Keywords: live video survey interviews, prerecorded video survey interviews, scheduling video interviews, recruitment, breakoffs



As more people routinely communicate by two-way video, survey researchers have begun to explore live video interviewing as a survey mode (Anderson, 2008) in which respondents and interviewers see and hear each other in real time. This mode may be a good fit for research that requires face-to-face interviewing when physical co-presence is challenging due to safety concerns (e.g., dangerous public health conditions or the sample member lives in a high-crime neighborhood), or the geographical dispersion of the target population. One advantage is that live video interviewing does not require any travel by the interviewer which, depending on the study design, may substantially reduce survey costs. And both data quality and respondents' sense of rapport with video interviewers appears, so far, to be at least as good as in in-person interviews (e.g., Endres et al., 2022; Sun et al., 2021).

One-way video is arguably even more common in everyday life than two-way video—for example, on YouTube and other social media platforms; on learning sites that offer on-demand instructional videos; in recordings from video doorbells and police body cameras; and in live streams from baby monitors and surveillance cameras. In this approach, video may be recorded in advance (as on YouTube) or streamed live (as with baby monitors). The technology may also be interactive in the limited sense that viewers can respond by clicking or typing (e.g., liking a video, posting a comment, or subscribing to a channel), whereas surveillance video generally does not support this kind of interaction.

One-way video has been studied as a survey mode in which prerecorded interviewers (both human and computer-generated) ask questions and respondents enter their answers directly in a web survey (e.g., Conrad et al., 2023; Conrad et al., 2020; Fuchs, 2009; Fuchs & Funke, 2007; Gerich, 2008; Haan et al., 2017; Höhne et al., 2024; Krysan & Couper, 2003; Lind et al., 2013; Strojil & Cígler, 2025). Evaluations of one-way video survey data collection suggest that respondents can feel some social connection to the recorded interviewer (e.g., Conrad et al., 2023), while showing little to no social desirability bias or time pressure. In this article, we refer to two-way video interviewing as “live video” and to one-way video survey interviewing as “prerecorded video.”

The aim of this article is to identify and contrast the obstacles to (a) recruiting sample members and (b) to their completing (i.e., not breaking off during) an interview in either of the two video modes (live and prerecorded). Starting and completing a conventional text-based web survey serves as a standard of comparison for the two video modes. The data were derived from a study (Conrad et al., 2023) exploring response quality in the two video modes that also compared

Direct correspondence to

Andrew L. Hupp, Institute for Social Research, University of Michigan, Ann Arbor, MI
E-mail: ahupp@umich.edu

responses to those collected in a text-based web survey. Thus, the current article allows the comparison of participation across these three modes.

Recruitment for Live and Prerecorded Video Survey Interviews

Recruiting participants into live video interviews is fundamentally different from recruiting them into prerecorded video “interviews.” To participate in a live video interview, a sample member generally needs to be invited in another mode, usually by email or postal mail, and then must schedule an interview time, making the process more like planning a meeting than receiving an invitation phone call.¹ In contrast, sample members who have been invited to a prerecorded video interview via email, text message, or postal mail follow a link in the invitation to start the interview, as in a web survey. Thus, recruiting for live video interviews has at least one more stage, i.e., scheduling, than is the case for prerecorded video interviews.

Scheduling a Live Video Interview

If the study collects data from the same respondents on multiple occasions (e.g., Survey of Health, Aging and Retirement in Europe or the US Current Population Survey), it may be possible for an interviewer to schedule a video interview as part of an earlier interview session or when the survey organization visits the sample member for reasons related to the study (e.g., to collect biospecimens). By virtue of being in person, the interviewer can also make sure the video connection and technology are functioning and that the sample member is sufficiently familiar with the technology to participate in a later video interview².

It is also possible for a sample member to self-schedule the interview (see Conrad et al., 2023 for an example of self-scheduling a live video interview and McGonagle and Sastry, 2021 for a discussion of self-scheduling a telephone interview). This can be offered to sample members in the previous scenario who are not able or willing to schedule while the interviewer is present or in a one-time survey via another mode, e.g., email or postal mail. In either case, the sample member is likely provided a link to an online scheduling portal, where available interview times are listed and the sample member is instructed to select one, much like one might self-schedule a medical appointment, car repair, or haircut.

¹ An exception to the meeting analogy is being invited via a video platform such as FaceTime, which would be like a cold call or phone invitation. However, FaceTime or similar platforms have not been successfully used for live video survey interviews to our knowledge.

² In principle an interviewer can schedule a video interview when connected to a sample member for a phone interview, but because they are not on site, they will not be able to confirm that the video technology and sample member’s ability to use it are adequate for subsequent data collections.

There is also some precedent for an approach that does not involve scheduling: the interview can be conducted “on-demand,” i.e., the sample members are provided with a link to a video waiting room, which they enter, and when an on-demand interviewer is available, the data collection can begin (DeBell et al., 2022; Guggenheim et al., 2026). On-demand interviewing requires having interviewers on call, although probably not around the clock (unlike prerecorded video interviews, which can be started anytime).

Keeping the Appointment for a Live Video Interview

Assuming the sample member has scheduled a video interview, there remains one obstacle to beginning data collection: the sample member must show up at the appointed time. There is little published research on the extent to which survey interview appointments are kept. In the absence of literature about showing up for scheduled survey interviews, a reasonable proxy is the extensive body of research carried out about showing up for medical appointments where patients missing appointments has a substantial impact on cost. A key take-away from this literature is that as more effort is required to keep an appointment, e.g., greater distance to the clinic or lack of transportation, the rate of broken appointments increases (e.g., Dantas et al., 2018; Deyo & Inui, 1980). In fact, appointments are kept at a substantially higher rate for telehealth (i.e., video) visits than in-person clinic visits (Alkilany et al., 2021; Drerup et al., 2021) presumably because no travel is required. Not surprisingly, medical appointments are kept at a higher rate when patients are reminded that they have an upcoming appointment (e.g., Almong et al., 2003; Opon et al., 2020). Presumably the amount of effort required to show up and whether one remembers they have scheduled an appointment for a survey interview both affect the “show rate” in much the same way. Note that the advantage in show rates observed for telehealth compared to in-person clinic visits is unlikely to directly correspond to show rates for live video versus in-person survey interviews. Scheduling an appointment to be interviewed is unlikely to be as urgent (and may be more burdensome) to a respondent than scheduling an appointment to be examined by a doctor is to a medical patient: one’s health almost surely motivates a patient to schedule and show up for a video medical meeting more than a survey researcher’s research question motivates a sample member to schedule and show up for a video survey interview.

The analogy between telemedicine appointments and video interview appointments is not perfect: in the former it is travel by the patient that is made unnecessary by video, while in the latter it is travel by the interviewer – not the respondent – that is eliminated. But, despite these differences, the two types of scheduled video interaction place some additional burden on either the patient or respondent: both require the patient/respondent to navigate to the video platform with which they may be unfamiliar, possibly use a headset, resolve tech-

nical problems, etc. just to get started. None of those are the case for in-person clinic visits or in-person survey interviews.

Figure 1 displays the hypothetical loss of cases, i.e., the growth in nonresponse or “drop-off,” at each stage in the recruitment process for live video survey interviews. It seems likely that there will be substantial loss (i.e., non-response) between invitation and scheduling. In addition to finding live video interviewing potentially more intrusive or unsettling (as one can imagine sample members might perceive video interviewing) than in-person or telephone interviews, the extra effort required to schedule an appointment may be a substantial deterrent to participation. As the medical appointment literature makes clear, not everyone who has scheduled an appointment shows up, even when one’s health is involved, which is almost surely more motivating than the promise of having one’s voice heard in a survey. Of those who do show up for their appointment, a small subset will not start the interview because, for example, technical problems prevent going forward. Thus, the proportion of invited sample members who complete the data collection process (i.e., the respondents) may be smaller than in modes that do not require scheduling and showing up, as these are decision points at which the video sample member may choose not to participate.

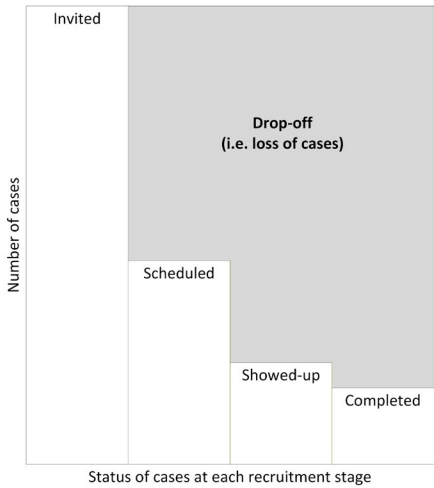


Figure 1 Conceptualization of live video interview drop-off (loss of cases) from invitation to completion

Note that in Figure 1, the white bars to the right of “Invited,” such as “Scheduled,” represent sample members who are not yet respondents: they have not

started or completed the interview and could drop off at the next stage, but they are not yet nonrespondents. They are akin to sample members in a telephone survey who have neither declined nor accepted a telephone invitation to participate but have agreed to be called back to further discuss their participation: they are still “live prospects” (see Conrad et al., 2013). This leads to our first research question:

RQ1: *What percent of sample members drop-off at each recruitment stage (including scheduling, showing up, completion) for live video interviews?*

Breakoffs

Nonresponse can also take the form of starting but not finishing an interview, i.e., breaking off. One factor that might affect breakoffs (or its complement, completion) is the extent to which a participant is familiar with and prefers interacting in the mode to which they have been assigned. Olson et al., (2012) demonstrated that completion is higher when the mode of data collection matches participants’ articulated mode preference (collected in a survey conducted in the previous year). The authors tested the effect of mode preference on completion of web, mail, and phone surveys; we assume that the mechanism that they tapped into is in effect present in other modes as well, including live video interviews. If a sample member has started a live video interview, they are, in principle, more likely to complete it if they prefer interacting with a live, visible person than self-administering a textual questionnaire.

RQ2: *Do sample members who are likely to prefer interacting with a live human interviewer complete live video interviews at a higher rate (i.e., break off less often) than do sample members who are likely to prefer responding to self-administered, text-based web questionnaires?*

Because web surveys – which are typically text-based – are ubiquitous, many sample members invited to prerecorded video interviews may expect an experience similar to what they are familiar with in text-based web surveys when agreeing to participate and may expect to read and respond to textual questions, not to watch and listen to a video-recorded interviewer ask questions.³ Prerecorded video interviewing is fundamentally multimodal (spoken question and visible, moving interviewer), which may be aversive to respondents who are used to a text-only interface, and perhaps more importantly, silence and stillness in the interface. Similarly, respondents may find the slow, spoken delivery

³ We note it is possible to implement pre-recorded video interviews that include text of the question as well as the video-recorded presentation of that question so the experience may not be entirely different from a text-based web survey, but will include audio and video.

of questions – slower than the speed at which they may be able to read them – unpleasant, especially if they cannot “barge in” to circumvent the spoken question. It is possible that this combination of factors, i.e., the disconnect between properties of the mode and what respondents expect, slow question delivery, and inability to barge in, could increase breakoffs in prerecorded video interviews compared to traditional text-based web surveys. Moreover, despite the presence of a recorded interviewer, those who have started the interview are sure to recognize that ending the interaction will have no social costs, e.g., they will not offend the interviewer whose recordings they have been responding to. On the other hand, the recorded interviewer’s presence could reduce breakoffs relative to a textual web survey: respondents seem to react socially to prerecorded interviewers, almost as if they feel a modest level of “rapport” with them even though they recognize the recorded interviewer’s inanimacy (e.g., Conrad et al., 2023).

RQ3: *Will sample members who are primarily familiar with text-based web surveys complete a text-based web survey at a higher rate (i.e., break off less often) than they would complete a prerecorded video interview?*

The pattern of breakoff across the questionnaire could differ depending on the mode. In Live Video interviews, respondents could feel obliged to continue through the questionnaire, having established a relationship with the interviewer, albeit mediated. But the relationship may take time to develop, suggesting that if there are breakoffs in live video interviews, they will occur early. Thus, breakoffs could be rare across the entire interview. Moreover, those sample members who have scheduled and shown up for the appointment may be predisposed to complete the interview. Similarly, in web surveys, respondents have been shown to break off most frequently on the early pages (Mittereder & West, 2022; Peytchev, 2009) so if they “survive” beyond that point, they are likely to complete the questionnaire. For prerecorded video interviews, the location of breakoffs is harder to anticipate as the mode has not been widely evaluated. On the one hand, it is possible that the respondents will feel motivated by recorded interviewers to complete the study, but on the other, they may find the movement and sound of the video recording to be distracting and annoying, a reaction that could become more prevalent as the interview progresses. In this case, breakoffs would increase over the questionnaire.

RQ4: *What is the pattern of breakoffs across the questionnaire when (a) a live interviewer asks the questions, (b) a prerecorded interviewer asks the questions, and (c) there is no interviewer, (i.e., a textual web survey)?*

Breakoffs may be related not only to the interview mode but also to the device the respondent uses. It is well known that breakoffs in web surveys are more prevalent when respondents use a mobile device than a computer (desktop or laptop) (see Couper et al., 2017 for a review) due, among other reasons, to the

small screen size and its effect on entering responses. On the one hand, we might expect that breakoffs will be equally likely for live video interviews conducted on mobile and desktop devices, because respondents register their answers via speech in both cases, i.e., they do not enter responses by typing or tapping, minimizing the effect of screen size. Moreover, they are likely to have established a comparable relationship with the interviewer on both devices similarly affecting breakoffs⁴. On the other hand, to the extent the interviewer presents textual or graphical materials, breakoffs could be higher on mobile devices because these materials may well be harder to read or view on a small screen. Moreover, in a live video interview on a mobile device the likelihood is greater that the respondent will be in an environment that is not conducive to sustained attention, e.g., while in transit, than if the interview is conducted on a computer.

Because prerecorded video interviews share at least some features with both textual web surveys and live video interviews, it is natural to ask how devices affect breakoffs in prerecorded video interviews. It is possible that respondents will feel connected with the video-recorded interviewers to the same extent on both mobile devices and computers, leading to similar breakoff rates across the interview. Alternatively, if the mode is implemented so that respondents must select answers from on-screen options (as opposed to speaking their answers), the small screen in mobile prerecorded video interviews could inflate breakoffs relative to breakoffs on a computer. In addition, designers may have less control over how video recordings behave on mobile devices than computers, which could lead to less usable interfaces and thus increased breakoffs.

RQ5: *How do breakoffs compare between mobile devices versus computers, for (a) live video interviews, (b) prerecorded video interviews, and (c) conventional text-based web surveys?*

Data and Methods

The data that this paper is based on were collected between November 2019 and March 2020, in an experimental study (reported in Conrad et al., 2023; see also West et al., 2022) that compared data quality and respondent experience in three data collection modes: (a) live video⁵ (i.e., two-way, video-mediated exchanges), in which nine professional interviewers read 36 questions out loud and respondents spoke their answers that the interviewer then recorded; (b) prerecorded

⁴ In fact, the proportion of the screen devoted to the interviewer's face could well be higher on a mobile than desktop device, potentially hyperfocusing the respondent on the interviewer.

⁵ See https://www.mivideo.it.umich.edu/media/t/1_1zoid4cu for an example of the live video interview.

video,⁶ in which separate video recordings of the same nine interviewers each asking the same 36 questions (i.e., one video recording of each interviewer asking each question) were embedded in a web survey, and respondents answered by selecting or typing in their answers; and (c) a conventional text-based web survey⁷ in which respondents read on-screen, textual questions and directly entered their answers by selecting or typing them in. It was conducted to learn about the two video modes and not to produce population estimates. In the current article, we examine factors affecting participation, i.e., recruitment, starting, and completing (or its complement, breakoffs) in the three modes.

The live video interviews were conducted in a web browser so that respondents did not need to download and install an app. The prerecorded video interviews were designed so that the question was only presented orally, and response options were only displayed after the video finished playing; this was done to make these interviews more comparable to live video interviews in which interviewers were trained to read all the response options before accepting answers. On desktop and laptop computers the videos auto-played after the page loaded; on mobile devices videos did not auto-play due to a software limitation, requiring respondents to manually start each video. Prerecorded video and the text-based web survey were optimized for smaller screens by implementing wide response buttons (see Figures 2 and 3).

⁶ See https://www.mivideo.it.umich.edu/media/t/1_vjhtigaf for an example of the prerecorded video interview.

⁷ See https://www.mivideo.it.umich.edu/media/t/1_82z2zs7y for an example of the web survey.

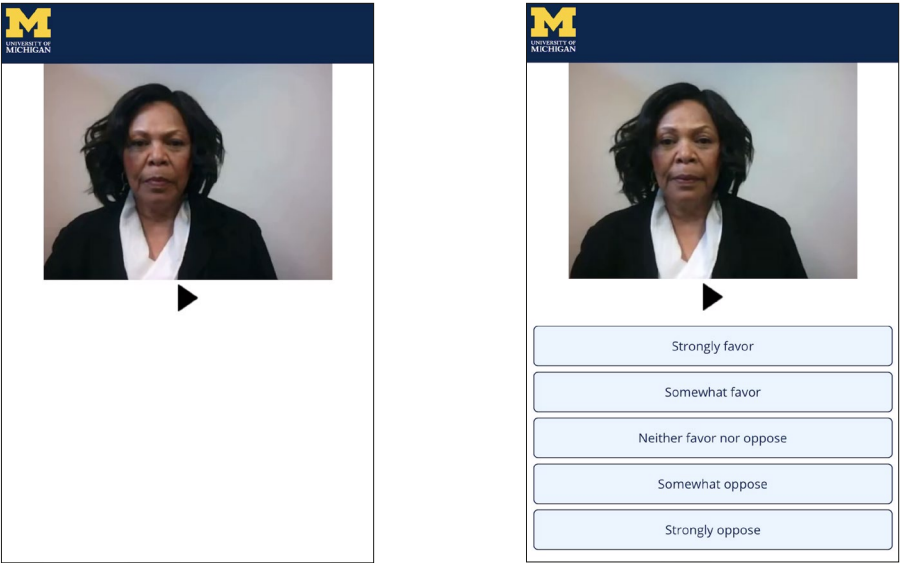


Figure 2 Respondent’s mobile screen before (left) and after (right) the video has played in Prerecorded Video

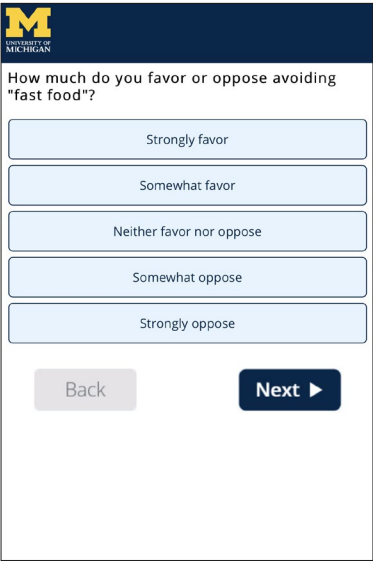


Figure 3 Respondent’s mobile screen in text-based Web Survey

Sample Source

Initially, we attempted to recruit participants via Address-Based Sampling (ABS), but ABS yielded completed interviews from less than 1% of invited live video households⁸ (see Conrad et al. 2023), although more reasonable outcomes (~8-10%) for prerecorded video and the text-based web survey were obtained, so we do not include the few completed cases recruited via ABS in any analyses. Due to the low yield of interviews with ABS, we explored two opt-in (i.e., non-probability) sample sources, one a conventional web panel (WebPanel) and one a clinical research panel (ClinicalPanel), because (a) they facilitated recruiting (being created for participation in research studies), and (b) their non-probability character was not a concern because the goal of the study was to understand the viability of live and prerecorded video interviewing for collecting survey data, not to produce population estimates. Sample members were recruited randomly from both sample sources into one of the three survey modes.

Members of these two sample sources typically engage in quite different types of research studies. Members of the WebPanel typically participate in conventional self-administered, text-based surveys in which the interface is static and silent, i.e., no human presence. Thus, panel members rarely, if ever, interact with a human interviewer, potentially finding such an interaction more or differently demanding than they would like, which might in turn depress their participation in live video interviews. And they certainly do not expect participation to require scheduling a time in which to complete the interview, as they expect to participate at a time of their choosing. They also are unlikely to expect the questions in prerecorded video interviews, in effect, a web survey to be presented by recorded interviewers that move and speak and, thus, may find this unappealing, potentially depressing completion of prerecorded video interviews.

In contrast, members of the ClinicalPanel typically participate in health and medical research, often in person, e.g., to undergo blood draws, imaging, blood pressure measurement, etc., so a remote but live interaction is probably more similar to what they're familiar with than it would be to WebPanel members; yet it is unlikely that, at the time of our study, they had ever participated in a live video interview. The similarity of live video interviewing to the in-person research that ClinicalPanel members were familiar with seems likely to promote participation in live video interviews. And the requirement to schedule an appointment is a component of clinical research – one cannot usually visit the medical facility at a time of their choosing – so scheduling an appointment for

⁸ In the ABS pilot we invited 300 sample members to participate in a live video interview, which resulted in 2 completed interviews; in prerecorded video we invited 150 sample members, and this resulted in 12 completed interviews; in web we invited 150 sample members, and this resulted in 14 completed interviews.

a live video interview is unlikely to create an insurmountable obstacle. Taken together, willingness to schedule a data collection session and to interact with live interviewers should promote completion of live video interviews for ClinicalPanel members compared to WebPanel members.

Similarly, we would expect ClinicalPanel members to complete prerecorded video interviews at a higher rate than WebPanel members because the former group is likely to be unfazed by the (recorded) presence of a human interviewer who asks questions compared to the latter group. Moreover, if the ClinicalPanel members are willing to schedule an appointment for a live video interview, they should be at least as willing to start a prerecorded video interview, which requires only clicking a link when they are ready to begin (as in textual web surveys). Thus, we expect these factors to promote participation in the web survey and prerecorded video interviews for members of the ClinicalPanel relative to WebPanel members. Taken together, these considerations suggest it is likely that members of the two panels differ substantially in their preference of survey modes, based on the modes they are most familiar with and the types of research tasks they regularly carry out and are comfortable with.

Survey Invitation

Sample members in each mode only received one invitation to the study (i.e., no follow-up invitations). Those assigned to prerecorded video and the web survey were sent customized invitations containing a link to the survey. Those assigned to live video interviews were given a link to a scheduling application in an invitation (email for ClinicalPanel members, internal online invitation for WebPanel members), listing available interview times within the next two weeks to select from, and were asked to provide an email address. Once a sample member had selected an interview time, they were sent a confirmation email with the day and time of the appointment and the link to use for the interview. They were reminded of the appointment via email and, if they provided a phone number (which most people did), a text message. These were sent the day before the scheduled appointment, a few hours before the scheduled time on the day of the appointment, and five minutes after the start of the appointment if the sample member had not shown up for the interview.

All live video invitees were offered \$20 to complete the interview; prerecorded video and web survey invitees were offered \$5, except ClinicalPanel invitees, who were offered \$20 for comparability with typical clinical research (see Conrad et al. 2023, Online Appendix G, for details).

Results

RQ1: What percent of sample members drop-off at each recruitment stage (including scheduling, showing up, completion) for live video interviews?

The need to schedule a live video interview clearly increased nonresponse (see Table 1). Of those who were invited to participate, only 10.3% scheduled an appointment, i.e., 89.7% dropped off. However, the scheduling rate differed substantially between the two sample sources, with 100% of the invited Clinical-Panel members scheduling an appointment, but only 5.6% of the invited Web-Panel members scheduling an appointment. We return to this in the Discussion.

Of those who did schedule an appointment, less than half (49.1%) showed up for the interview. But of those who showed up, most (98.3%) completed the interview. Although those who showed up were likely to complete the interview, only 4.9% of the 5,783 sample members who were invited completed a live video interview. The patterns of scheduling, showing up for, and completing live video interviews are generally consistent with the conceptualization presented in Figure 1, although for the ClinicalPanel, scheduling was not an obstacle. Clearly, scheduling and showing up for an appointment – which are critical to live video interviewing – can be obstacles to participation for at least some sample members.

Table 1 Count and percentage of cases that remain at each recruitment stage for live video interviews

Invited	Scheduled an appointment	Showed up for appointment	Showed + Completed interview
5,783	593 (10.3%)	291 (49.1%)	286 (98.3%)

RQ2: Do sample members who are likely to prefer interacting with a live human interviewer complete live video interviews at a higher rate (i.e., break off less often) than do sample members who are likely to prefer responding to self-administered, text-based web questionnaires?

As Table 2 shows, those who started live video interviews completed them at high rates. Sample source (which we consider a proxy for mode preference) had little impact: 95.0% of WebPanel members who started, completed it; 99.5% of those ClinicalPanel members who started completed it. While breakoffs were not sensitive to sample members’ mode preferences, response rates were. Looking at those who are likely to prefer responding to a self-administered, text-based questionnaire (i.e., WebPanel), only 1.4% of the invited sample members completed the interview. In comparison, of those who were likely to prefer interacting with a live human interviewer (i.e., ClinicalPanel), 74.2% of invited sample members

completed the interview. Clearly, the kind of interaction that sample members were used to had a major impact on response.

Table 2 Completion and response rates (AAPOR RR1) by mode by sample source

Mode	Sample Source	Invited	Showed up / Started	Completed	Completion Rate	Response Rate
Live Video	Total	5,783	291	286	98.3%	4.9%
	WebPanel	5,500	80	76	95.0%	1.4%
	ClinicalPanel	283	211	210	99.5%	74.2%
Prerecorded Video	Total	1,230	563	414	73.5%	33.7%
	WebPanel	1,120	478	330	69.0%	29.5%
	ClinicalPanel	110	85	84	98.8%	76.4%
Web Survey	Total	552	445	422	94.8%	76.4%
	WebPanel	445	379	356	93.9%	80.0%
	ClinicalPanel	107	66	66	100%	61.7%

RQ3: Will sample members who are primarily familiar with text-based web surveys complete a text-based web survey at a higher rate (i.e., break off less often) than they would complete a prerecorded video interview?

For sample members who were familiar with text-based web surveys (WebPanel members), most who started the web survey completed it (93.9%), while far fewer of those who started a prerecorded video interview completed it (69.0%). Despite prerecorded video being similar in many ways to a conventional text-based web survey, these respondents clearly experienced the two modes differently. We cannot disentangle whether it was the presence of the video-recorded interviewer, including their voice, the implementation of the mode (e.g., it was not possible to respond until the video recording had finished playing), or an interaction of the two that led to the relatively low completion rate for these sample members, but clearly they were less willing to persevere in completing this type of web survey, i.e., with an embedded recording of an interviewer asking questions, than a conventional text-based web survey. This phenomenon is even more evident when looking at response rates (80.0% vs. 29.5%, AAPOR RR1).

RQ4: What is the pattern of breakoffs across the questionnaire when (a) a live interviewer asks the questions, (b) a prerecorded interviewer asks the questions, and (c) there is no interviewer (i.e., a textual web survey)?

There were very few breakoffs in live video interviews. The five sample members who started but did not finish the interview in this mode (see Table 3, row

1) broke off at different points, i.e., it does not seem that landing in a live video interview by itself led them to abandon the interview, nor was there one question that seemed to lead them to break off (see Figure 4), but the main point is that breakoffs were of negligible frequency for live video interviews.

Conversely, breakoffs were very frequent in prerecorded video: more than a quarter of respondents broke off (see Table 3, row 2). In a logistic regression model⁹ breakoffs are 7.24 times more likely than in the web survey (Table 4). Breakoffs occurred on almost every question (see Figure 4). The breakoffs in this mode were driven largely by the sample of WebPanel members (see Table 2).

Table 3 Breakoffs across the three modes, sample source, and device

		Breakoffs	Proportion
Mode	Live Video (291)	5	0.02
	Prerecorded Video (563)	149	0.26
	Web Survey (445)	23	0.05
Sample Source	WebPanel (937)	175	0.19
	ClinicalPanel (362)	2	0.01
Device	Mobile (646)	122	0.19
	Computer (651)	55	0.08

Table 4 Breakoff predicted by mode, device, and sample source

Term	Estimate	Standard error	Odds ratio	Statistic	<i>p</i>
(intercept)	-6.35	0.76	< 0.01	-8.35	< .01
Mode: Live Video (ref=Web)	0.12	0.52	1.13	0.23	.82
Mode: Prerecorded Video (ref=Web)	1.98	0.24	7.24	8.32	< .01
Sample Source: WebPanel	3.16	0.73	23.57	4.35	< .01
Device: Mobile	0.65	0.19	1.92	3.49	< .01

⁹ Implemented in the glm() function in R. The model predicts breakoffs based on mode (Live Video, Prerecorded Video, or Web Survey), sample source (WebPanel or Clinical-Panel), and device (mobile or computer).

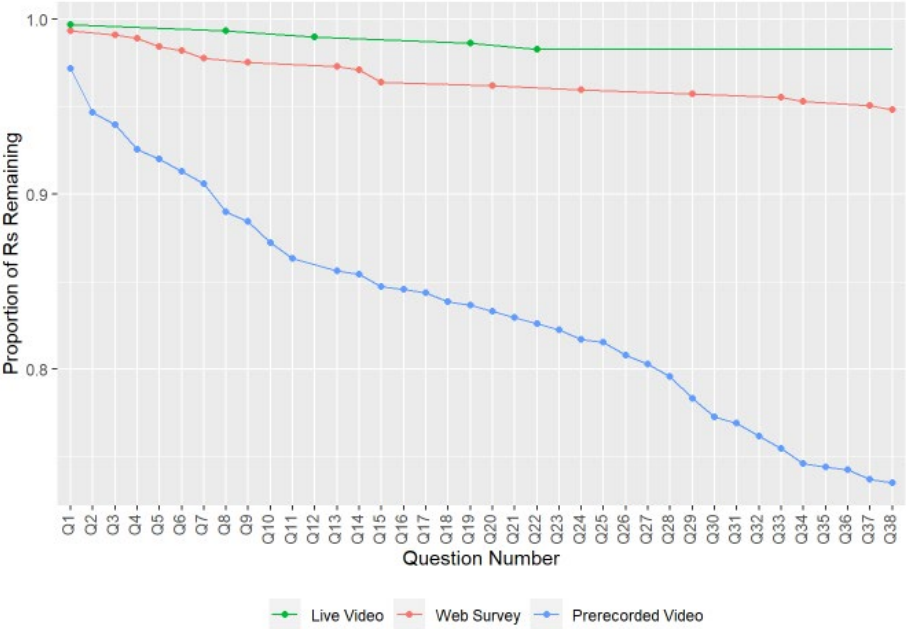


Figure 4 Proportion of respondents (i.e., sample members who started the questionnaire) remaining at each question in each mode. Each point represents one or more breakoffs; the proportion of respondents remaining at each question is represented on the Y-axis; individual questions are represented on the X-axis.

Similar to live video, web survey respondents did not break off in high numbers. The 23 respondents who did break off did so on different questions. All of the 23 respondents who broke off were from the WebPanel. We attribute these outcomes to the ubiquity of web surveys in general and most sample members’ familiarity with the mode. A textual web survey was apparently far more appealing – and presumably less surprising – to the WebPanel sample than was a web survey in which a video-recorded interviewer was embedded.

Finally, the vast majority of breakoffs across all modes involved respondents from the WebPanel (see Sample Source rows in Table 3): these respondents were 24 times more likely to break off than were respondents from the ClinicalPanel (Odds Ratio, Table 4). This difference is almost surely driven by breakoffs in pre-recorded video: 148 of the 149 breakoffs were from the WebPanel, whereas the breakoffs in the other modes were lower in the two sample sources: in live video, there were only five breakoffs (four of which were from the WebPanel), and in the web survey, there were only 23 breakoffs (100% of which were from the WebPanel).

RQ5: How do breakoffs compare between mobile devices versus computers for (a) live video interviews, (b) prerecorded video interviews, and (c) conventional text-based web surveys?

Breakoffs were higher for respondents using mobile devices (19%) than computers (8%) as shown in Table 3, and this is highly significant in the logistic regression model (bottom row of Table 4). The effect of the device was almost entirely evident in the two self-administered modes: mobile users accounted for 65.2% of the breakoffs in web surveys and 71.5% of the breakoffs in prerecorded video (there were too few breakoffs to analyze in live video interviews).

The higher breakoff rate for mobile devices in prerecorded video than web surveys is likely due to the smaller screens on mobile devices than computers, even though wider-than-usual response buttons were implemented in the mobile user interfaces for web and prerecorded video. Breakoffs on mobile devices were even higher in prerecorded video than the web survey, which we attribute to implementation: due to a constraint of the interviewing software at the time, videos on mobile devices did not autoplay, requiring respondents to tap/touch “Play” to start the video; each additional action may well have pushed them to break off (Conrad et al. 2006; Gray & Fu, 2004).

Discussion

The current study provides initial evidence about the challenges researchers face promoting participation in both live and prerecorded video interviews. Because nonparticipation takes different forms in both video modes, minimizing it will require different strategies for the two modes.

As we proposed, participating in a live video interview requires sample members to overcome multiple obstacles and opportunities to drop off: they need to *schedule* an interview, *show up* at the appointed time and start the interview, and they need to *complete* the interview once they start it.

Scheduling a live video interview. In the current study, 10% of invited sample members scheduled an appointment on average, but the scheduling rate differed substantially between sample sources, with 100% of the invited Clinical-Panel members scheduling an appointment! In contrast, only 5.6% of the invited WebPanel members scheduled an appointment. This difference in scheduling rate likely reflects differences in the sample’s familiarity with and tolerance for scheduling an interview appointment, i.e., those whose research experience involves participating when they choose, prefer not to schedule. This might suggest that live video interviewing is well suited for studies where the same person is interviewed multiple times. The initial survey can be done in person, with the interviewer helping to schedule follow-up video interviews if they are in the not-too-distant future. Moreover, because the interviewer can collect the sample

member's contact information, including email, in that initial visit, a sample member could be invited to schedule a video interview closer to the next data collection, or be reminded via email about any previously scheduled appointment. In addition, by virtue of their familiarity with and trust in the survey organization established over multiple interviews, respondents may be more open to use an interviewing mode with which they have no prior experience.

While there could be many reasons that sample members do not schedule a live video interview when they are invited to, one reason might be that they simply are not sufficiently motivated to do so. This might be addressed by incentivizing (e.g., paying) them to both schedule and show up for the interview as well as to complete it. If reluctance to schedule an interview is related to concerns about privacy (as suggested in Schober et al., 2023), recruitment could benefit from informing respondents what measures have been taken to protect their data and maintain confidentiality. Similarly, scheduling rates may be low because members of the public lack trust in science, government, or technology, and video communication – especially for collecting survey data – may exacerbate this lack of trust. Building a relationship with the sample member, as in a longitudinal panel study, seems likely to help reassure sample members' responses and identities are secure.

Showing up for a scheduled live video interview. Once the sample members scheduled an interview, the percentage who showed up at the appointed time was a fraction of those who were scheduled to participate. Similarly, Guggenheim et al. (2026) reported that in a pilot study of live video interviewing only about half showed up for the scheduled interview. So far, the evidence suggests that there can be substantial loss of cases because sample members do not honor their appointment. It is unclear if the rate of scheduling and honoring an appointment for a live video interview is better or worse than in phone or in-person interviews, but it is essential in live video interviews in way that it's not for phone or in-person interviews. Showing up in live-video involves honoring a commitment to show up at a certain time; showing up in a prerecorded video interview or web survey is a matter of clicking when it is convenient.

This raises the question of how researchers can increase the show rate in live video interviews. Among the possible approaches to reducing no-shows in this mode are:

- **Remind sample members about the upcoming appointment.** If an in-person interview was conducted initially, the interviewer can leave an appointment card. In addition, the organization can vary the modes¹⁰ in which they remind the sample member about the upcoming appointment.

¹⁰ Email and text message reminders can include a calendar invitation.

- **Require eCheck-in to confirm an appointment.** Asking sample members to confirm their appointment may increase their commitment to the study, analogous to asking respondents to commit to answer questions conscientiously (e.g., Cannell et al., 1981; Cibelli et al., 2020). This approach is widely used for self-scheduling in domains from medical appointments to restaurant reservations.
- **Make it as easy as possible to join.** Ideally, respondents will be able to join the scheduled interview with a single click in a browser, i.e., without it being necessary to download an app. For comparability across respondents, the video platform should perform similarly across operating systems and devices, which should in turn lead to easier procedures for joining.

We note that none of these are likely to be a panacea. Confirmation of appointments and ease of joining were implemented to a certain degree in this study, and no-show rates were nonetheless high. It is possible that no-show rates would have been higher had we not implemented these measures, but without an experimental comparison we cannot say for sure.

Failure to show up for a live video interview at the appointed time can create monetary costs that are not at issue in other modes: live video interviewers will likely be paid to wait for a respondent who does not show up on time and ultimately does not start the interview. Depending on the protocol, e.g., requiring interviewers to wait 10 minutes before reclassifying the case as a no-show, the cost of these unproductive intervals can add up. Costs could be defrayed if interviewers are given other low-priority tasks to carry out while waiting that could be terminated if a respondent joins the video session, but any waiting is costly. One way to reduce interviewer waiting due to no-shows is to intentionally overbook appointments, much as airlines overbook flights (see Zacharias & Pinedo, 2014 for an example of overbooking medical appointments to reduce costs).

Completing a live video interview. Almost all respondents (98%) who started a Live Video interview completed the interview. This high level of completion could be a selection effect, i.e., the requirements of scheduling and showing up for a scheduled interview could have filtered out sample members at higher risk of breaking off¹¹ had they started the live video interview. Alternatively, it could be a function of the interviewer's social presence, i.e., just as terminating an in-person interview midstream is something most respondents would consider

¹¹ Partial completion (breakoffs) and unit nonresponse in interviews may similarly be affected by burden (Bradburn, 1978). One subgroup that is at an increased risk of unit nonresponse and, by extension breakoff, is sample members with the lowest levels of education (Spitzer, 2020). Those with the lowest levels of education (High School or less) were under-represented in our sample (see Conrad et al., 2023), so it is possible that had they been represented more accurately, breakoffs in live video interviews could have been higher. However, the hurdles required to start a live video interview may well have filtered out members of this group, irrespective of its size, before they could start the interview.

rude, live video respondents could be similarly reluctant to break off. Or it could be some combination of selection and interviewer presence. We cannot determine this based on the data available in the current study, but if the high rate of completion is due at least in part to interviewer presence (and not selection), increasing the rate of scheduling interviews and showing up for scheduled interviews as just described should also increase the proportion of invited sample members who ultimately complete the interview (AAPOR RR1).

Note that as live video interviewing is used more, researchers will need to develop standard definitions of participation metrics, e.g., scheduling rates and show-up rates. This may become particularly tricky in mixed-mode studies since live-video relies heavily on scheduling and thus presents multiple opportunities for nonresponse i.e., for sample members to drop off, which is not usually the case in other modes, complicating how participation is quantified across modes. Moreover, if a sample member shows up at the appointed time, but only to reschedule, or is unable to start due to technical problems, it is hard to know how these scenarios should be classified with current participation metrics.

Completing a prerecorded video interview. Breakoffs were higher in prerecorded video than either live video interviews or the conventional text-based web survey. One likely reason for this concerns the extent to which the features of this mode are consistent with respondents' mode preferences, which seem likely to differ depending on how they communicate every day, their comfort with and trust in technology, how well the particular implementation of the mode comports with their expectations, etc. In the current study, we attribute the higher breakoff rate among the WebPanel than ClinicalPanel members to the former's preference for a text-only experience. Moreover, our implementation required them to play the entire video before being able to register their answer and, on mobile devices, to press a button to play each video. Conversely, Strojil and Cígler, 2025, report lower breakoff rates in prerecorded video than in a textual web survey, presumably because they implemented the former mode so that respondents could answer while the video was playing, and the video auto-played on all devices.

To increase completion in prerecorded video interviews, we propose:

- **Explicitly alert sample members in the invitation that the questionnaire will be administered by a recorded human interviewer, producing speech and visual activity.** This may deter some sample members from starting but could be preferable to a high breakoff rate as the nature of the interview experience becomes clear to respondents; instead, upfront clarity about the features of the mode should help assure that sample members start the interview with appropriate expectations, increasing the chances they will complete it. If the goal is to reach a sample size target rather than maximizing the response rate, researchers can issue as many invitations as are needed to reach the target

without incurring monetary costs – at least in a panel such as the WebPanel used in the current study.

- **Allow respondents in a prerecorded video interview to submit a response before the video has finished playing.** In the current study respondents could not answer the question while the video was playing to promote comparability with the administration of the live video interview in which the standardized interviewers were trained to read the questions entirely before accepting a response. That constraint is unlikely to be present in production surveys using prerecorded video interviews.
- **Present question text, including response options, along with the video.** Since some sample members will read faster than the recorded interviewer speaks, textual redundancy with the video recording will allow them to respond as soon as they have come up with the answer. However, this approach may undermine the data quality benefits of prerecorded video interviews (Conrad et al., 2023).
- **Allow the video recording to autoplay on all devices.** This was not possible on mobile devices when the mode was implemented, at least using the platform we used, and seemed to be a deterrent to completion: breakoffs were more than twice as high for respondents on mobile than desktop devices. Clearly, auto-playing video recordings on mobile devices is now possible, as evidenced by the Strojil and Cígler (2025) study.
- **Prepare the respondent for a prerecorded video interview.** The amount of control over the video afforded to respondents should be made clear prior to the start of the interview. This includes whether the video will autoplay, whether respondents can adjust the rate at which the video plays, and whether they can replay, pause, or stop the video.

The current study was based on data derived from an experiment that was designed to investigate the effects of three modes, i.e., a live video interview, a prerecorded video interview, and a textual web survey, on response quality. Thus, it was not designed to examine participation across the three modes. Nonetheless, the effects of the three modes on participation were undeniable, despite our repurposing the data. Further, the two non-probability sample sources were something of a double-edged sword. On the one hand, the very different participation behavior between the two sample sources complicates the mode comparison. On the other hand, this created a natural experiment allowing us to compare the effects of respondent familiarity with a mode, and likely expectations about their subsequent experience.

Online panels, both non-probability and probability, are potentially well-suited for live video interviews, as members of both types of samples can be easily invited, in contrast to members of the public whose email addresses are generally unknown to researchers. Exploring the extent to which the results

reported here generalize to other online sample sources is an important next step, especially following the explosive growth in two-way video communication during the pandemic, just after the current data were collected.

Our implementation of prerecorded video interviews was constrained in many ways and probably less optimal than we would have liked. Some version of this approach may become relatively common. For example, Spiegelman and Conrad (2025) found that audio presentation of definitions in a web survey improved response quality relative to text only, and both audio and text led to even higher quality results. Similarly, as LLM-powered chatbots and avatars become more common, it is likely they will be incorporated into survey data collection. Thus, members of different kinds of panels may accept the successors of prerecorded video interviews to a greater extent than was generally the case when the current data were collected.

It seems likely that neither live nor prerecorded video interviews are ideal as stand-alone survey modes. Instead, they seem likely to be most helpful to researchers when they are implemented within a suite of modes from which sample members can choose the mode in which they participate. Video may not be for everyone, but for some it might be just right.

Funding

We gratefully acknowledge financial support from NSF grants SES-1825113 and SES-1825194 (Methodology, Measurement, and Statistics program) and NIA grant P30 AG012846 (Michigan Center on the Demography of Aging), and access to participants through NCATS grant UL1TR002240 (Michigan Institute for Clinical & Health Research).

Conflict of Interest

The authors report no potential conflicts of interest with respect to the research authorship, or publication of this article.

References

- Alkilany, R., Tarabichi, Y., & Hong, R. (2021). Telemedicine visits during COVID-19 improved clinic show rates. *JACR Open Rheumatology*, 4(2), 136-141. <https://doi.org/10.1002/acr2.11372>
- Almong, D. M., Devries, J. A., Borrelli, J. A., & Kopycka-Kedzierawski, D. T. (2003). The reduction of broken appointment rates through an automated appointment confir-

- mation system. *Journal of Dental Education*, 67(9), 1016-1022. <https://doi.org/10.1002/j.0022-0337.2003.67.9.tb03684.x>
- Anderson, A. H. (2008). Video-mediated interactions and surveys. In F. G. Conrad & M. F. Schober (Eds.), *Envisioning the survey interview of the future* (pp. 95-118). Wiley. <https://doi.org/10.1002/9780470183373.ch5>
- Bradburn, N. M. (1978). Respondent burden. Proceedings of the American Statistical Association, survey research methods section (pp. 35-40). Alexandria, VA: American Statistical Association. http://www.asasrms.org/Proceedings/papers/1978_007.pdf
- Cannell, C. F., Miller, P. V., & Oksenberg, L. (1981). Research on interviewing techniques. *Sociological Methodology*, 12, 389-437. <https://doi.org/10.2307/270748>
- Cibelli Hibben, K., Felderer, B., & Conrad, F. G. (2020). Respondent commitment: applying techniques from face-to-face interviewing to online collection of employment data. *International Journal of Social Research Methodology*, 25(1), 15-27. <https://doi.org/10.1080/13645579.2020.1826647>
- Conrad, F., Broome, J., Benkí, J., Kreuter, F., Groves, R., Vannette, D., & McClain, C. (2013). Interviewer speech and the success of survey invitations. *Journal of the Royal Statistical Society Series A: Statistics in Society*, 176(1), 191-210. <https://doi.org/10.1111/j.1467-985X.2012.01064.x>
- Conrad, F. G., Couper, M. P., Tourangeau, R., & Peytchev, A. (2006). Use and non-use of clarification features in web surveys. *Journal of Official Statistics*, 22(2), 245-269. <https://www.scb.se/contentassets/ca21efb41fee47d293bbec5bf7be7fb3/use-and-non-use-of-clarification-features-in-web-surveys.pdf>
- Conrad, F. G., Schober, M. F., Hupp, A. L., West, B. T., Larsen, K. M., Ong, A. R., & Wang, T. (2023). Video in survey interviews: Effects on data quality and respondent experience. *Methods, Data, Analyses*, 17(2), 135-170. <https://doi.org/10.12758/mda.2022.13>
- Conrad, F. G., Schober, M. F., Nielsen, D., & Reichert, H. (2020). Virtual interviewers, social identities, and survey measurement error. In *Interviewer Effects from a Total Survey Error Perspective* (pp. 149-164). Chapman and Hall/CRC. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003020219-15/virtual-interviewers-social-identities-survey-measurement-error-frederick-conrad-michael-schober-daniel-nielsen-heidi-reichert>
- Couper, M.P., Antoun, C., & Mavletova, A. (2017). Mobile Web Surveys. In *Total Survey Error in Practice* (eds P.P. Biemer, E. Leeuw, S. Eckman, B. Edwards, F. Kreuter, L.E. Lyberg, N.C. Tucker and B.T. West). <https://doi.org/10.1002/9781119041702.ch7>
- Dantas, L. F., Fleck, J. L., Cyrino Oliveira, F. L., & Hamacher, S. (2018). No-shows in appointment scheduling - a systematic literature review. *Health Policy*, 122(4), 412-421. <https://doi.org/10.1016/j.healthpol.2018.02.002>
- DeBell, M., Amsbary, M., Brader, T., Brock, S., Good, C., Kamens, J., Maisel, N., & Pinto, S. (2022). Methodology Report for the 2020 ANES Time Series Study. Palo Alto, CA and Ann Arbor, MI: Stanford University and the University of Michigan. https://electionstudies.org/wp-content/uploads/2022/08/anes_timeseries_2020_methodology_report.pdf
- Deyo, R. A., & Inui, T. S. (1980). Dropouts and broken appointments. *Medical Care*, 18(11), 1146-1157. <https://www.jstor.org/stable/3764264>
- Drerup, B., Espenschied, J., Wiederner, J., & Hamilton, L. (2021). Reduced no-show rates and sustained patient satisfaction of telehealth during the COVID-19 pandemic. *Telemedicine and e-Health*, 27(12), 1409-1415. <https://doi.org/10.1089/tmj.2021.0002>

- Endres, K., Hillygus, D. S., DeBell, M., & Iyengar, S. (2022). A randomized experiment evaluating survey mode effects for video interviewing. *Political Science Research and Methods*, 11(1), 144-159. <https://doi.org/10.1017/psrm.2022.30>
- Fuchs, M. (2009). Gender-of-interviewer effects in a video-enhanced web survey: Results from a randomized field experiment. *Social Psychology*, 40(1), 37-42. <https://doi.org/10.1027/1864-9335.40.1.37>
- Fuchs, M., & Funke, F. (2007). Video web survey - Results of an experimental comparison with a text-based web survey. In M. Trotman, T. Burrell, L. Gerrard, K. Anderton, G. Basi, M. Couper, K. Morris, K. Birks, A. Johnson, R. B., M. R., S. T., & A. W. (Eds.), *Proceedings of the Fifth International Conference of the Association for Survey Computing: The Challenges of a Changing World* (pp. 63-80). https://1stdirectory.co.uk/_assets/files_comp/41ba0402-5c62-4d6e-9460-07f82f314249.pdf
- Gerich, J. (2008). Real or virtual? Response behavior in video-enhanced self-administered computer interviews. *Field Methods*, 20(4), 356-376. <https://doi.org/10.1177/1525822X08320057>
- Gray, W. D., & Fu, W. T. (2004). Soft constraints in interactive behavior: The case of ignoring perfect knowledge in-the-world for imperfect knowledge in-the-head. *Cognitive Science*, 28(3), 359-382. https://doi.org/10.1207/s15516709cog2803_3
- Guggenheim, L., Valentino, N. A., Hupp, A. L., DeBell, M., Hillygus, D. S., & Shaw, D. R. (2026). Understanding nonresponse in live video survey interviews: Evidence from two tests conducted as part of the American National Election Studies (ANES). *Methods, Data, Analyses*, 20(1), 46-86. <https://doi.org/10.25521/mda.641>
- Haan, M., Ongena, Y. P., Vannieuwenhuyze, J. T. A., & De Gloppe, K. (2017). Response behavior in a video-web survey: A mode comparison study. *Journal of Survey Statistics and Methodology*, 5(1), 48-69. <https://doi.org/10.1093/jssam/smw023>
- Höhne, J., Conrad, F., Neuert, C. & Claassen, J. (2024). Exploring effects of life-like virtual interviewers on respondents' answers in a smartphone survey. Paper presented at the 79th Annual Conference of the American Association for Public Opinion Research, Atlanta, GA. <https://aapor.confex.com/aapor/2024/meetingapp.cgi/Paper/2812>
- Krysan, M., & Couper, M. P. (2003). Race in the live and the virtual interview: Racial difference, social desirability, and activation effects in attitude surveys. *Social Psychology Quarterly*, 66(4), 364-383. <https://doi.org/10.2307/1519835>
- Lind, L. H., Schober, M. F., Conrad, F. G., & Reichert, H. (2013). Why do survey respondents disclose more when computers ask the questions? *Public Opinion Quarterly*, 77(4), 888-935. <https://doi.org/10.1093/poq/nft038>
- McGonagle, K. & Sastry, N. (2021). An experimental evaluation of an online interview scheduler: Effects on fieldwork outcomes, *Journal of Survey Statistics and Methodology*, 9(3), 412-428. <https://doi.org/10.1093/jssam/smaa031>
- Mittereder, F., & West, B. T. (2022). A dynamic survival modeling approach to the prediction of web survey breakoff. *Journal of Survey Statistics and Methodology*, 10(4), 945-978. <https://doi.org/10.1093/jssam/smab015>
- Olson, K., Smyth, J. D., & Wood, H. M. (2012) Does giving people their preferred survey mode actually increase survey participation rates? An experimental examination. *Public Opinion Quarterly*, 76(4), 611-635. <https://doi.org/10.1093/poq/nfs024>
- Opon, S. O., Tenambergen, W. M., & Njoroge, K. M. (2020). The effect of patient reminders in reducing missed appointment in medical settings: a systematic review. *PAMJ One Health*, 2, Article 9. <https://doi.org/10.11604/pamj-oh.2020.2.9.21839>

- Peytchev, A. (2009). Survey breakoff. *Public Opinion Quarterly*, 73(1), 74-97. <https://doi.org/10.1093/poq/nfp014>
- Schober, M. F., Okon, S., Conrad, F. G., Hupp, A. L., Ong, A. R., & Larsen, K. M. (2023). Predictors of willingness to participate in survey interviews conducted by live video. *Technology, Mind, and Behavior*, 4(2), 215-229. <https://doi.org/10.1037/tmb0000100>
- Spiegelman, M. & Conrad, F. (2025). Improving understanding of survey questions with multimodal clarification. *Methods, Data, Analyses*, 19(1), 137-165. <https://doi.org/10.12758/mda.2025.09>
- Spitzer, S. (2020). Biases in health expectancies due to educational differences in survey participation of older Europeans: It's worth weighting for. *The European Journal of Health Economics*, 21(4), 573-605. <https://doi.org/10.1007/s10198-019-01152-0>
- Strojil, A., & Cígler, H. (2025). Video-administered questionnaire: Psychometric properties and comparison with a text-based format. *Computers in Human Behavior Reports*, 19, 100714. <https://doi.org/10.1016/j.chbr.2025.100714>
- Sun, H., Conrad, F. G., & Kreuter, F. (2021). The relationship between interviewer-respondent rapport and data quality. *Journal of Survey Statistics and Methodology*, 9(3), 429-448. <https://doi.org/10.1093/jssam/smz043>
- West, B. T., Ong, A. R., Conrad, F. G., Schober, M. F., Larsen, K. M., & Hupp, A. L. (2022). Interviewer effects in live video and prerecorded video interviewing. *Journal of Survey Statistics and Methodology*, 10(2), 317-336. <https://doi.org/10.1093/jssam/smab040>
- Zacharias, C., & Pinedo, M. (2014). Appointment scheduling with no-shows and overbooking. *Production and Operations Management*, 23(5), 788-801. <https://doi.org/10.1111/poms.12065>