

## CSR Report

### Reviewer Surveys – Peer Review Using the Zoom Video Meeting Platform

Office of the Director July 27, 2021

#### Introduction

The National Institutes of Health (NIH) depends on the Center for Scientific Review's (CSR) peer review process to ensure that all NIH grant applications receive fair, independent, expert, and timely reviews that are free from inappropriate influences. When the COVID-19 pandemic hit in mid-March 2020, CSR shifted most review meetings online, using the Zoom.gov video meeting platform. The purpose of these surveys was to assess the reviewers' observations on the quality of the review and their experiences as reviewers for the Summer 2020 (Survey 1) and Winter 2021 (Survey 2) review meetings, compared to the normal face-to-face review meetings. Survey 2 added two questions that had been used to assess reviewer perceptions of quality of review pre-COVID (2018-early 2020).

#### Major findings

- A large majority of reviewers rate quality of review in Zoom meetings as the same as face-to-face.
- Comparison of absolute ratings of quality of review show Zoom meetings are rated well, almost identically to pre-pandemic face to face meetings.
- Just over 40% of reviewers prefer the face to face meeting format; about 30% prefer Zoom.
- Substantial numbers of respondents raise concerns about problems with maintaining attention and reduced engagement in Zoom meetings.
- The data generally do not reveal differences in perception or preferences according to reviewer demographics or from Survey 1 to Survey 2.

See [Appendix](#) for Methods and additional analyses

#### Results

Survey 1 was administered to 8,083 reviewers, 3403 (42%) completed it, and of those, 3288 had participated in a Zoom meeting. Analysis was confined to those 3288 Zoom meeting respondents. Survey 2 was administered to 8,069 reviewers; 4,045 (50%) completed it. See Table 1 for reviewer characteristics.

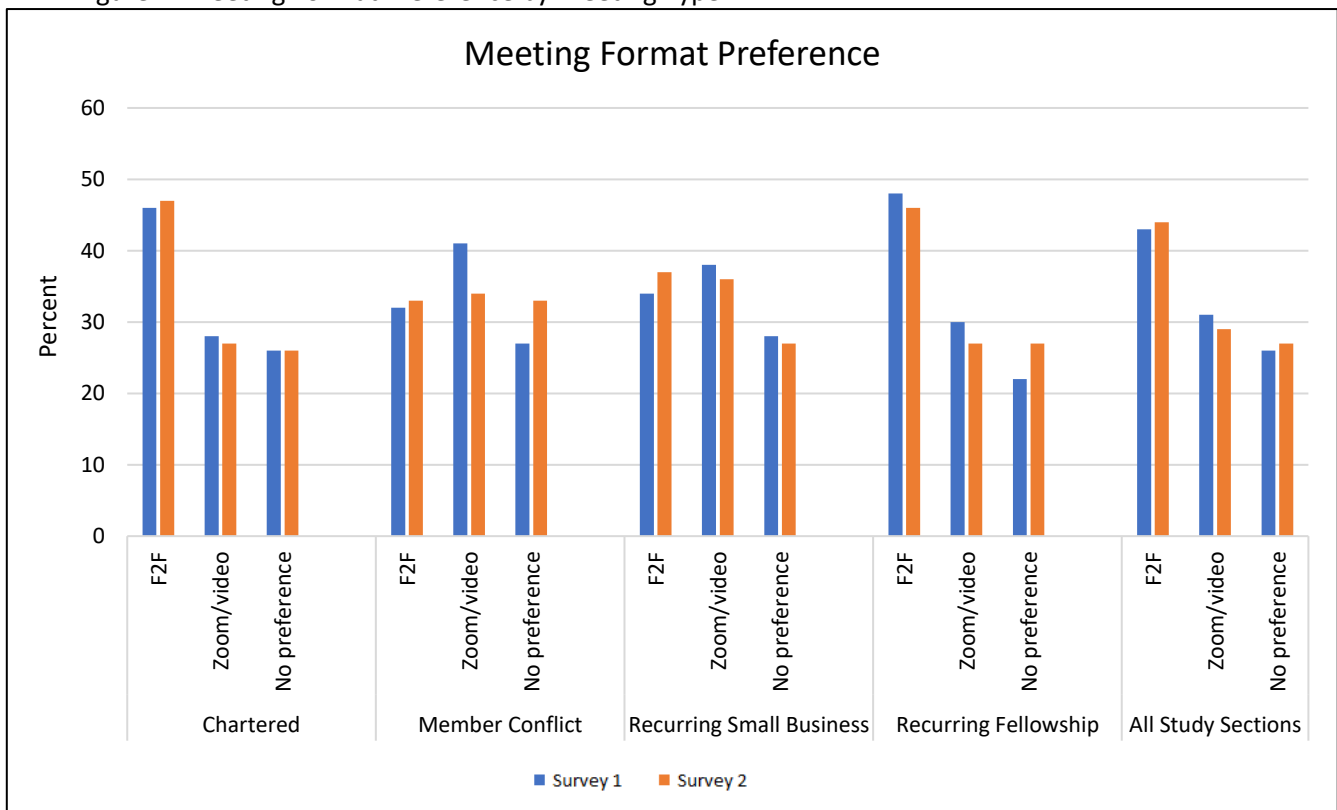
Table 1. Reviewer Characteristics of Survey Respondents who used Zoom

| Reviewer Characteristics |                                     | Survey Respondents     |                        |
|--------------------------|-------------------------------------|------------------------|------------------------|
|                          |                                     | Survey 1<br>(n = 3288) | Survey 2<br>(n = 4045) |
| <b>Gender</b>            |                                     |                        |                        |
|                          | Male                                | 59%                    | 56%                    |
|                          | Female                              | 39%                    | 42%                    |
|                          | Unknown                             | --                     | --                     |
|                          | Withheld                            | 2%                     | 2%                     |
| <b>Race</b>              |                                     |                        |                        |
|                          | American Indian or Alaskan          | <1%                    | <1%                    |
|                          | Asian                               | 19%                    | 21%                    |
|                          | Black or African American           | 2%                     | 3%                     |
|                          | More than one race                  | <1%                    | 2%                     |
|                          | Native Hawaiian or Pacific Islander | <1%                    | <1%                    |
|                          | White                               | 69%                    | 67%                    |
|                          | Unknown                             | --                     | --                     |
|                          | Withheld                            | 8%                     | 7%                     |
| <b>Ethnicity</b>         |                                     |                        |                        |
|                          | Hispanic/Latino                     | 5%                     | 6%                     |
|                          | Non-Hispanic                        | 90%                    | 90%                    |
|                          | Unknown                             | --                     | --                     |
|                          | Withheld                            | 5%                     | 4%                     |
| <b>URM</b>               |                                     |                        |                        |
|                          | No                                  | 84%                    | 83%                    |
|                          | Yes                                 | 8%                     | 9%                     |
|                          | Withheld                            | 8%                     | 8%                     |
| <b>Career Stage</b>      |                                     |                        |                        |
|                          | Professor                           | 56%                    | 52%                    |
|                          | Associate Professor                 | 30%                    | 33%                    |
|                          | Assistant Professor                 | 9%                     | 12%                    |
|                          | Other                               | 5%                     | 3%                     |

## Meeting Format Preferences

- As shown in Figure 1, reviewers overall prefer F2F meetings, but preference varies with meeting type.
- A higher percentage of men than women preferred F2F meetings, while the percent preferring Zoom is nearly the same between genders.
- A higher percentage of professors than assistants/associates preferred F2F meetings, but professors were no less likely than other ranks to prefer Zoom.
- Non-academic reviewers were substantially more likely to prefer Zoom over F2F meetings.

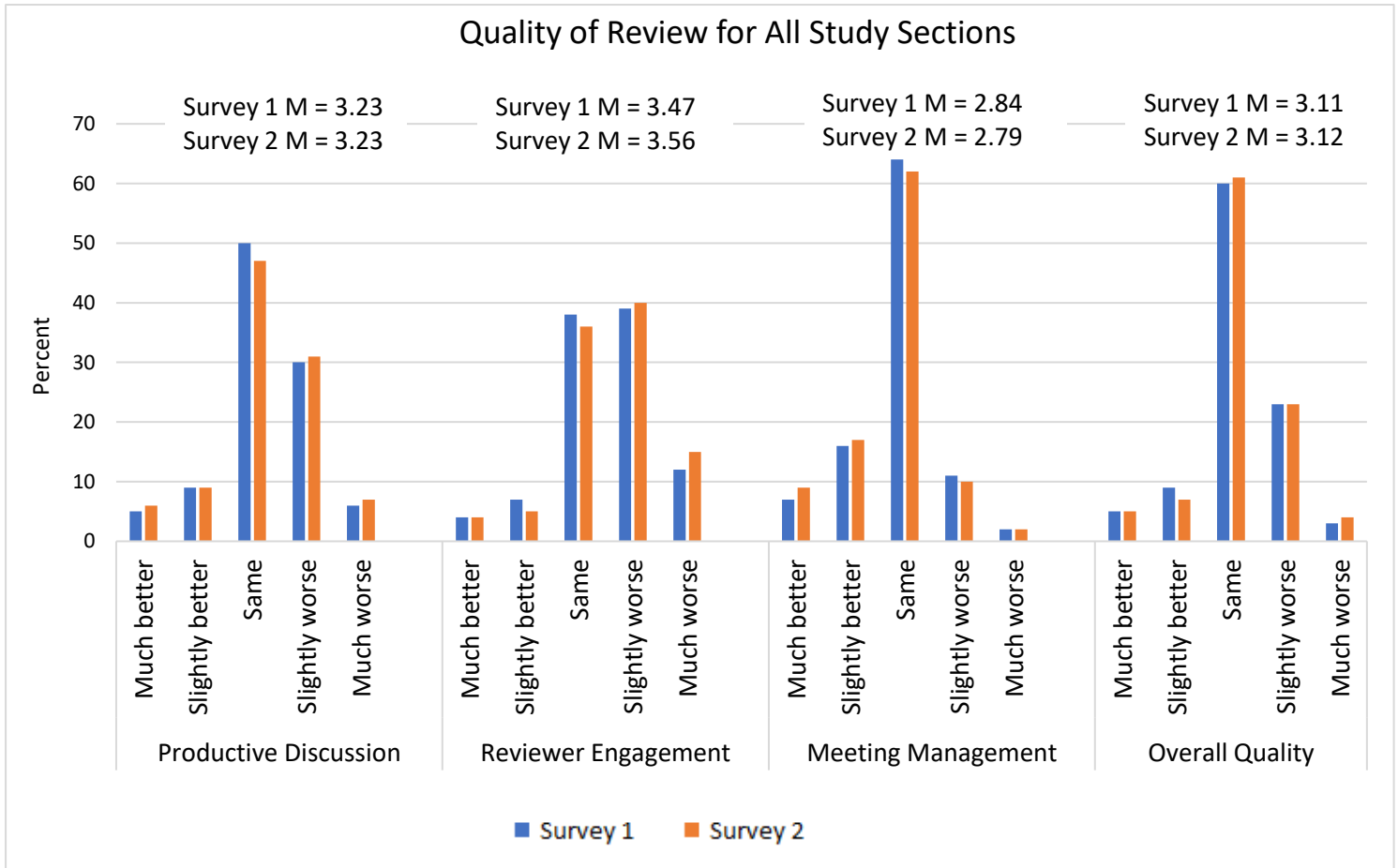
Figure 1. Meeting Format Preference by Meeting Type



### Perceived Quality of Review (relative to F2F)

- Figure 2 shows reviewer perceptions of the quality of Zoom meetings compared to F2F.
- About 60% of reviewers thought the overall quality of Zoom meeting was the same as that of F2F. Some concerns are raised by the finding that roughly 35-55% of reviewers rated quality of discussion and level of reviewer engagement worse compared to that in F2F meetings.

Figure 2. Reviewers' Assessments of Peer Review Quality for All Study Sections

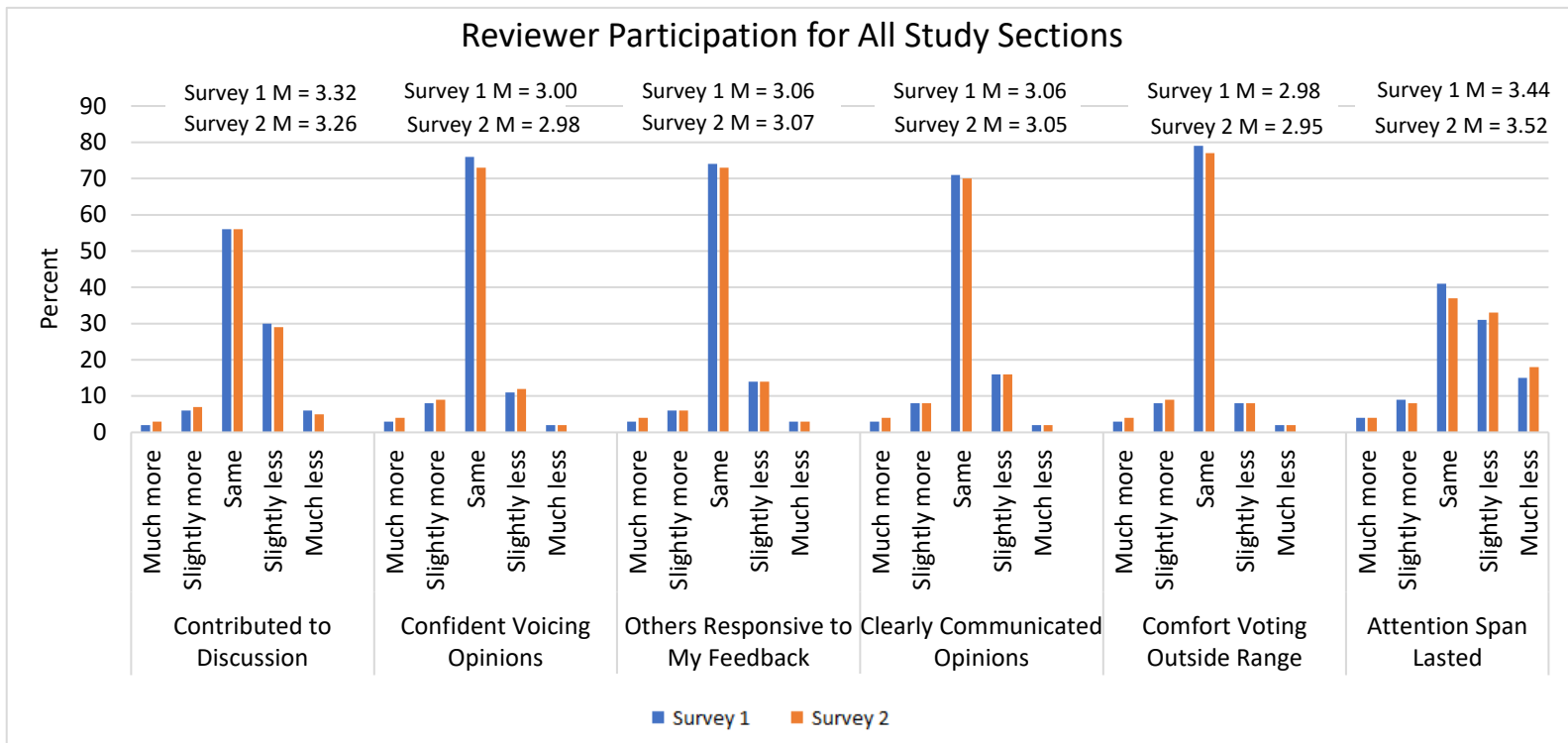


Note: Survey questions were on a scale from 1 (much better) to 5 (much worse), with lower scores indicating a more favorable view of the Zoom meeting compared to F2F meetings

### Self-report of Meeting Participation

- Figure 3 shows reviewer ratings of their own ability to participate in Zoom meetings compared to F2F.
- Overall, the ratings show reviewers generally felt able to participate in Zoom meetings similarly to F2F.
- Points of concern are that about a third said they contributed less to discussion, and about half said their attention faded more quickly in Zoom meetings, a pattern that was mirrored in ratings across all kinds of meetings, and especially for meetings of chartered study sections.

Figure 3. Reviewers' Meeting Participation for All Study Sections



Note: Survey questions were on a scale from 1 (much more) to 5 (much less), with lower scores indicating a more favorable view of the Zoom meeting compared to F2F meetings

**Perceived Quality of Review: Direct Comparison of Survey 2 Zoom Meetings to 2018-2020 F2F Meetings**

- Figures 4-5 show data capturing reviewers’ perceptions of the panels ability to evaluate the applications. Data concern chartered meetings only and come from the Survey 2 Zoom surveys (n = 2715) and surveys from F2F meetings during 2018-2020 (pre-COVID; n = 1106).
- Reviewers rated the panel’s ability to prioritize applications according to their impact and scientific merit essentially the same in Zoom and F2F meetings.
- Reviewers also thought that the scientific discussions at the Zoom meetings and F2F meetings were equivalently useful in helping them evaluate applications.

Figure 4. Reviewers’ Assessments of the Panels Ability to Prioritize Applications in Zoom and Face-to-Face Meetings

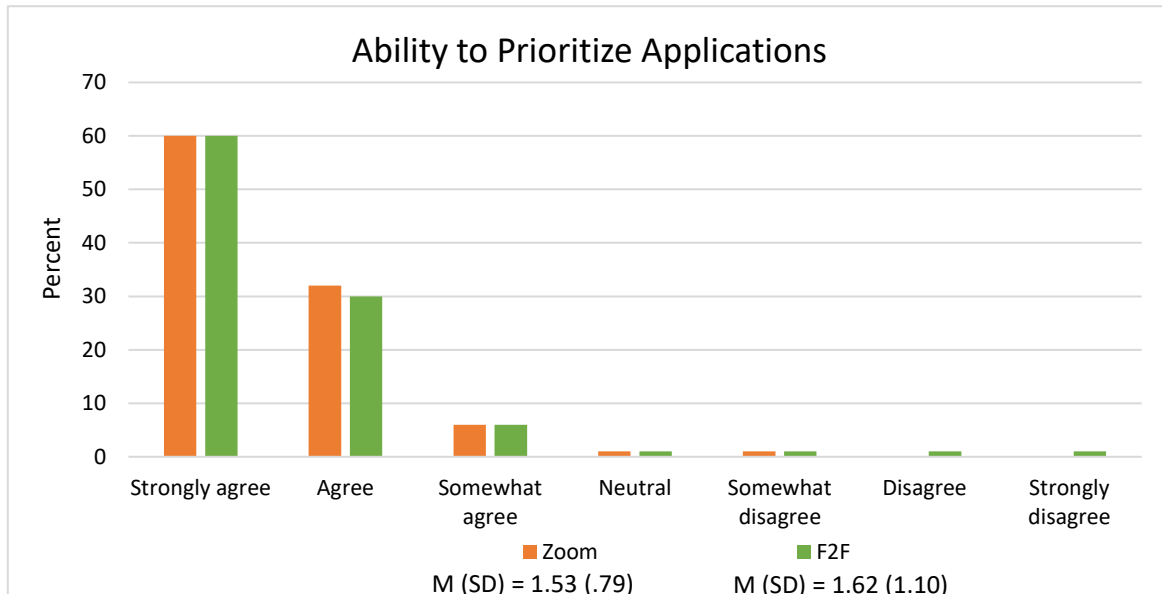
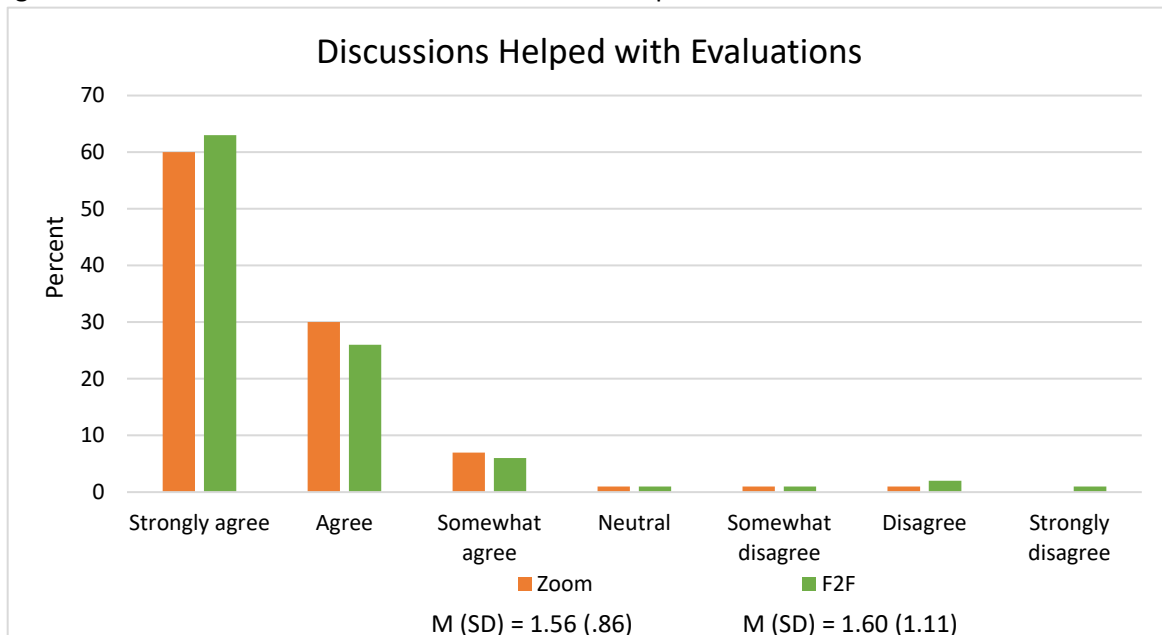


Figure 5. Reviewers’ Assessments of the Discussions Help with Evaluations in Zoom and Face-to-Face Meetings



Note: Survey questions were on a scale from 1 (strongly agree) to 7 (strongly disagree), with lower scores indicating a more favorable view of the review meeting

## Supplemental Analyses

### Analyses of Format Preference, Quality of Review, and Meeting Participation by Reviewer Characteristics and Meeting Type

#### Meeting Format Preference and Reviewer Characteristics

- Figures 6-8 show the meeting format preferences of reviewers by their socio-demographic characteristics

Table 2. Meeting Format Preference by Reviewer Characteristics

| Reviewer Characteristics |                     | Meeting Format Preference |           |          |          |               |          |
|--------------------------|---------------------|---------------------------|-----------|----------|----------|---------------|----------|
|                          |                     | Face-to-Face              |           | Zoom     |          | No Preference |          |
|                          |                     | Survey 1                  | Survey 2  | Survey 1 | Survey 2 | Survey 1      | Survey 2 |
|                          |                     | n (%)                     | n (%)     | n (%)    | n (%)    | n (%)         | n (%)    |
| <b>Gender</b>            |                     |                           |           |          |          |               |          |
|                          | Male                | 881 (46)                  | 1096 (49) | 578 (30) | 595 (26) | 462 (24)      | 551 (25) |
|                          | Female              | 501 (39)                  | 658 (39)  | 408 (32) | 543 (32) | 368 (29)      | 505 (29) |
| <b>URM</b>               |                     |                           |           |          |          |               |          |
|                          | No                  | 1191(43)                  | 1478 (44) | 858 (31) | 971 (29) | 724 (26)      | 904 (27) |
|                          | Yes                 | 108 (41)                  | 181 (48)  | 81 (31)  | 103 (27) | 72 (28)       | 96 (25)  |
| <b>Career Stage</b>      |                     |                           |           |          |          |               |          |
|                          | Assistant Professor | 117 (41)                  | 194 (40)  | 84 (29)  | 139 (29) | 87 (30)       | 147 (31) |
|                          | Associate Professor | 420 (42)                  | 554 (42)  | 304 (30) | 380 (29) | 275 (28)      | 386 (29) |
|                          | Professor           | 835 (46)                  | 1001 (48) | 548 (30) | 596 (29) | 433 (24)      | 491 (23) |
|                          | Other               | 49 (27)                   | 51 (33)   | 75 (42)  | 50 (33)  | 55 (31)       | 53 (34)  |

Figure 6. Meeting Format Preference by Gender and Survey

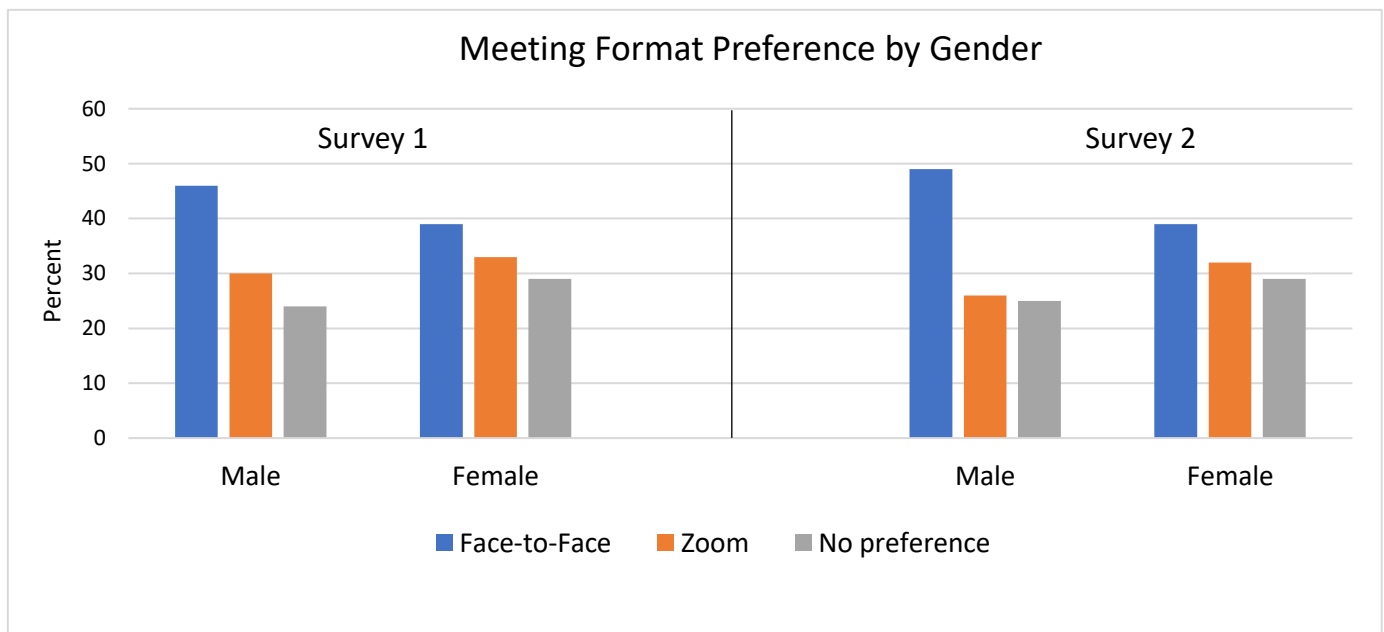


Figure 7. Meeting Format Preference by Minority Status and Survey

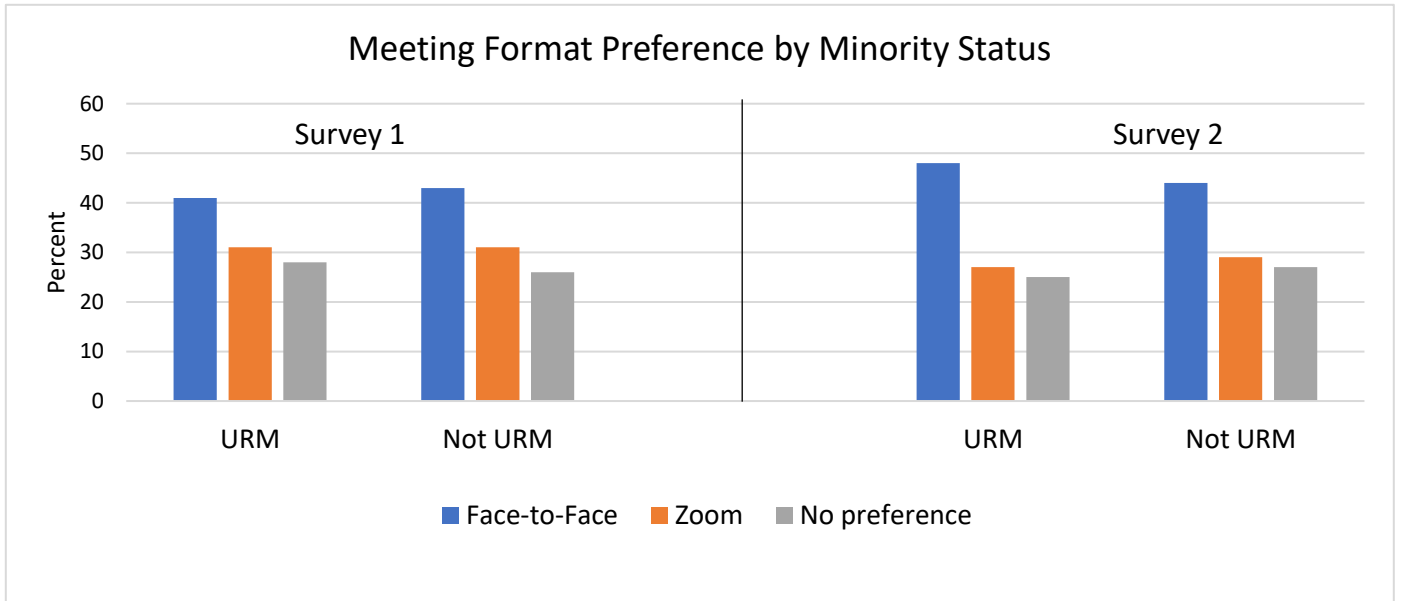
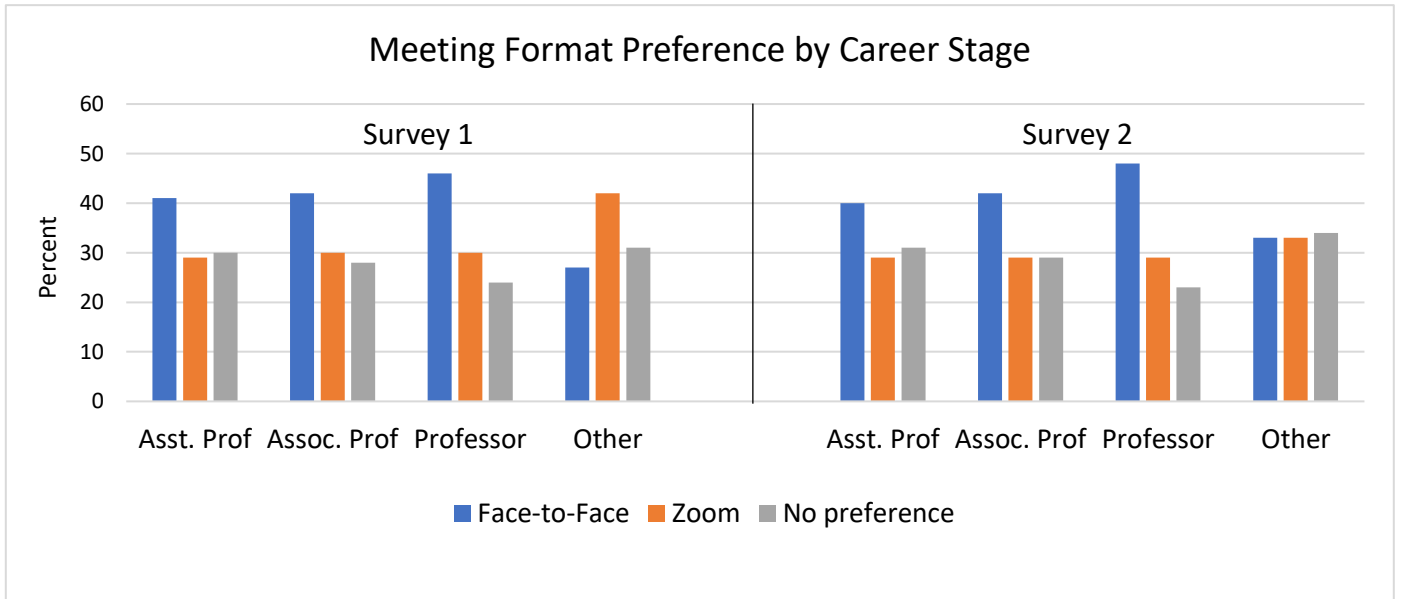


Figure 8. Meeting Format Preference by Career Stage and Survey





### Survey respondents and Meeting Type

- Table 3 shows the count of meetings represented according to type and number of survey respondents. The bulk of responses come from chartered study section meetings; memberconflict SEPs, SBIR, and fellowship meetings combined account for ~40% of responses.

Table 3. Study Section Type and Number of Respondents

| <b>Study Section Type</b> | <b>Survey 1<br/>Number of Study Sections<br/>(Number of respondents)</b> | <b>Survey 2<br/>Number of Study Sections<br/>(Number of respondents)</b> |
|---------------------------|--|--|
| Chartered                 | 154 (2166)   | 165 (2715)   |
| Member Conflict           | 42(283)  | 57 (416)   |
| Recurring Small Business  | 36 (534)   | 35 (476)   |
| Recurring Fellowships     | 21 (277)   | 27 (438)   |
| Total                     | 253 (3260)*  | 284 (4045)   |

\*Only 28 reviewers came from two *Recurring Special Topics* study sections bringing the total number of study sections to 255 and the total number of respondents to 3288. Due to these low numbers, separate analyses for this type of study section were not examined, but these reviewers are included with the main analyses examining the full sample.

### Perceived Quality of Review and Meeting Type

- Figures 9-12 show reviewers' perceptions of the quality of the review broken by meeting type.

Figure 9. Reviewers' Assessments of Peer Review Quality for **Chartered Meetings**

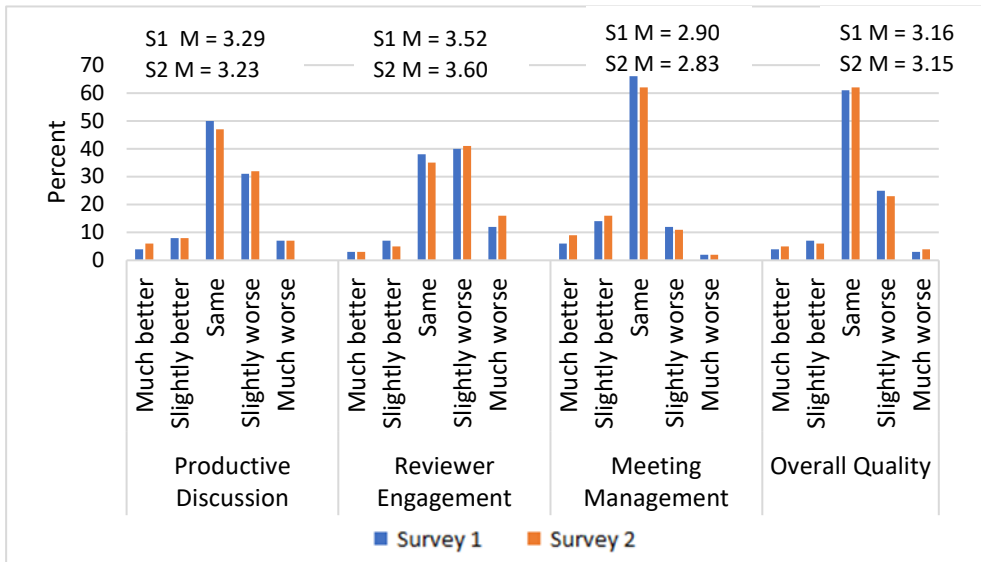


Figure 10. Reviewers' Assessments of Peer Review Quality for **Member Conflict Meetings**

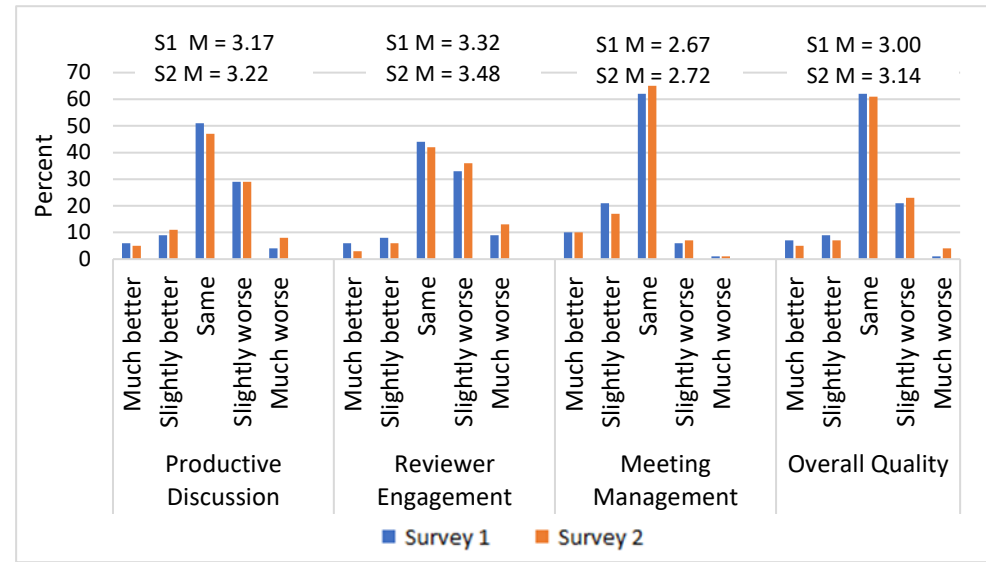


Figure 11. Reviewers' Assessments of Peer Review Quality for **Recurring Small Business Meetings**

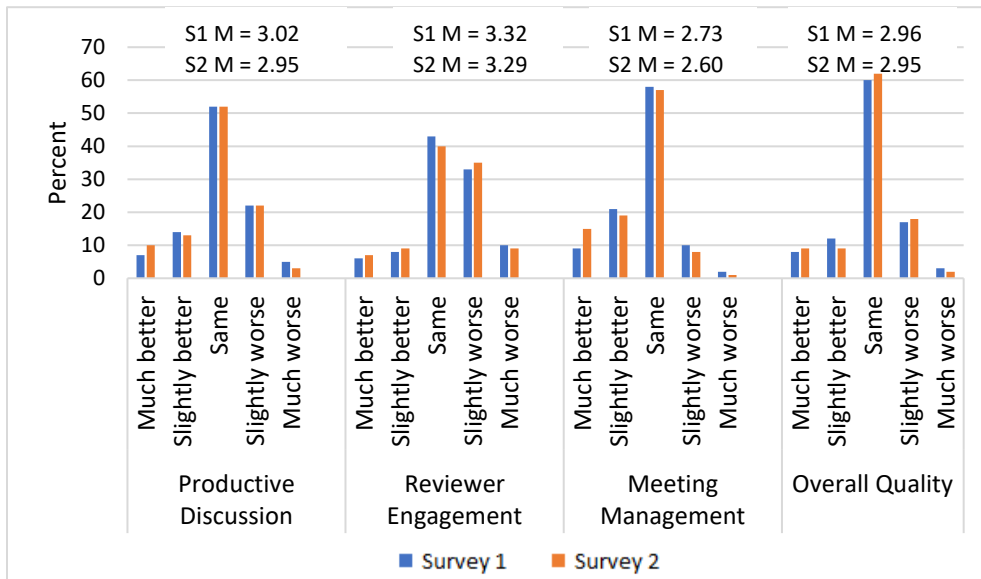
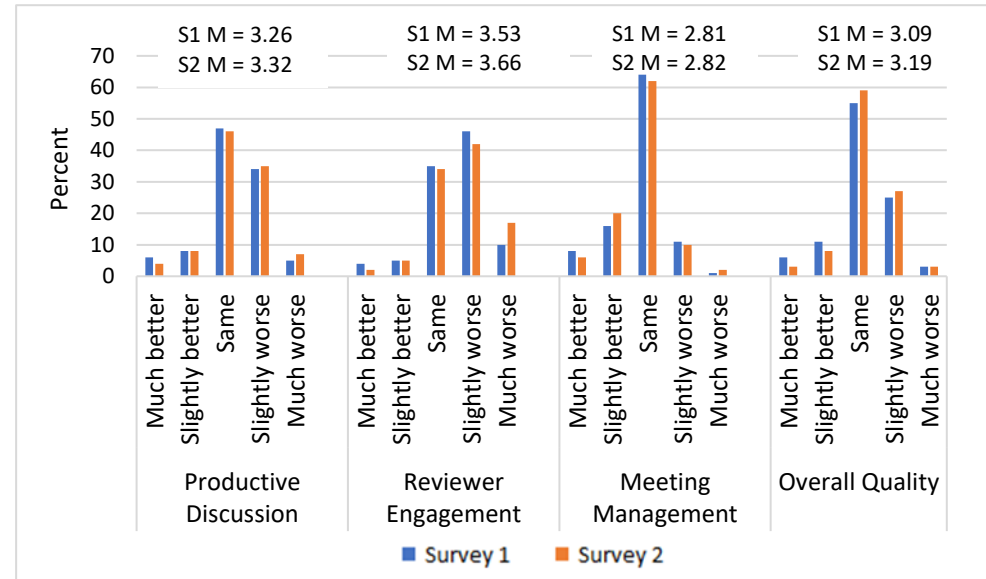


Figure 12. Reviewers' Assessments of Peer Review Quality for **Recurring Fellowship Meetings**



### Self-report of Meeting Participation and Meeting Type

- Figures 13-16 shows reviewers' participation in the review meeting by meeting type.

Figure 13. Reviewers' Meeting Participation for **Chartered Meetings**

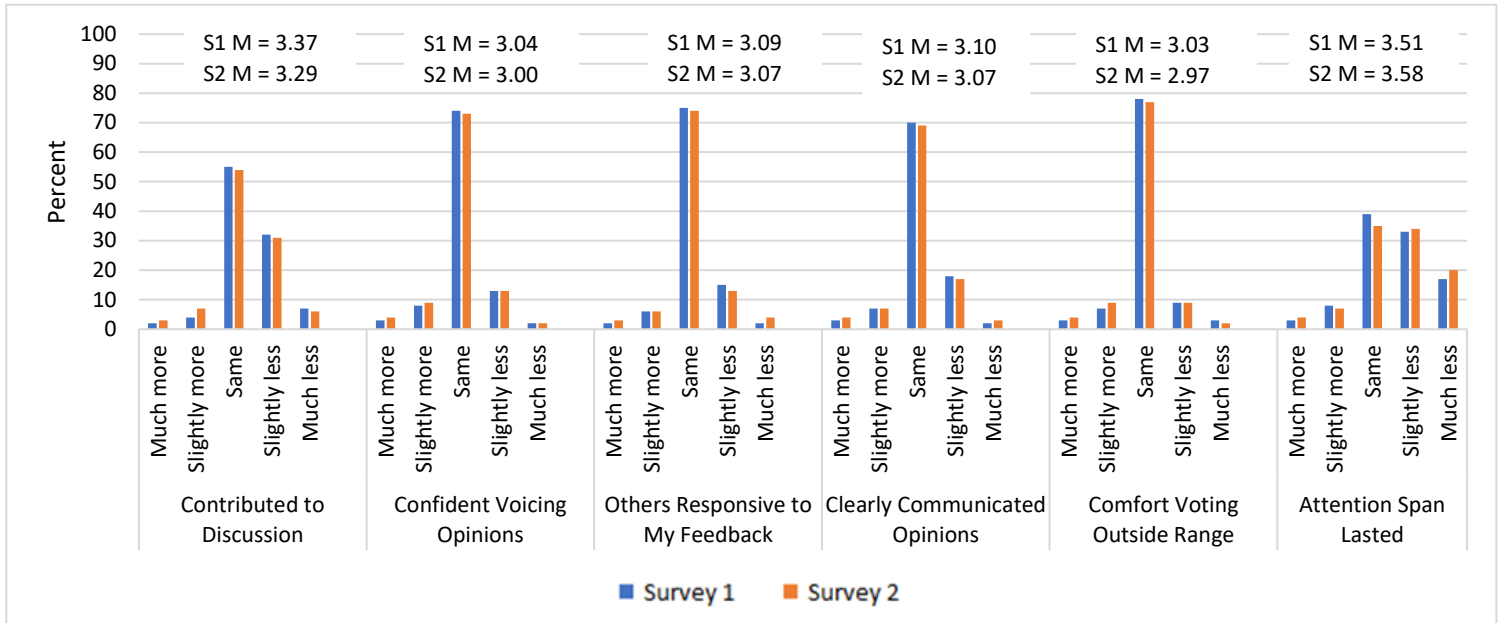


Figure 14. Reviewers' Meeting Participation for **Member Conflict Meetings**

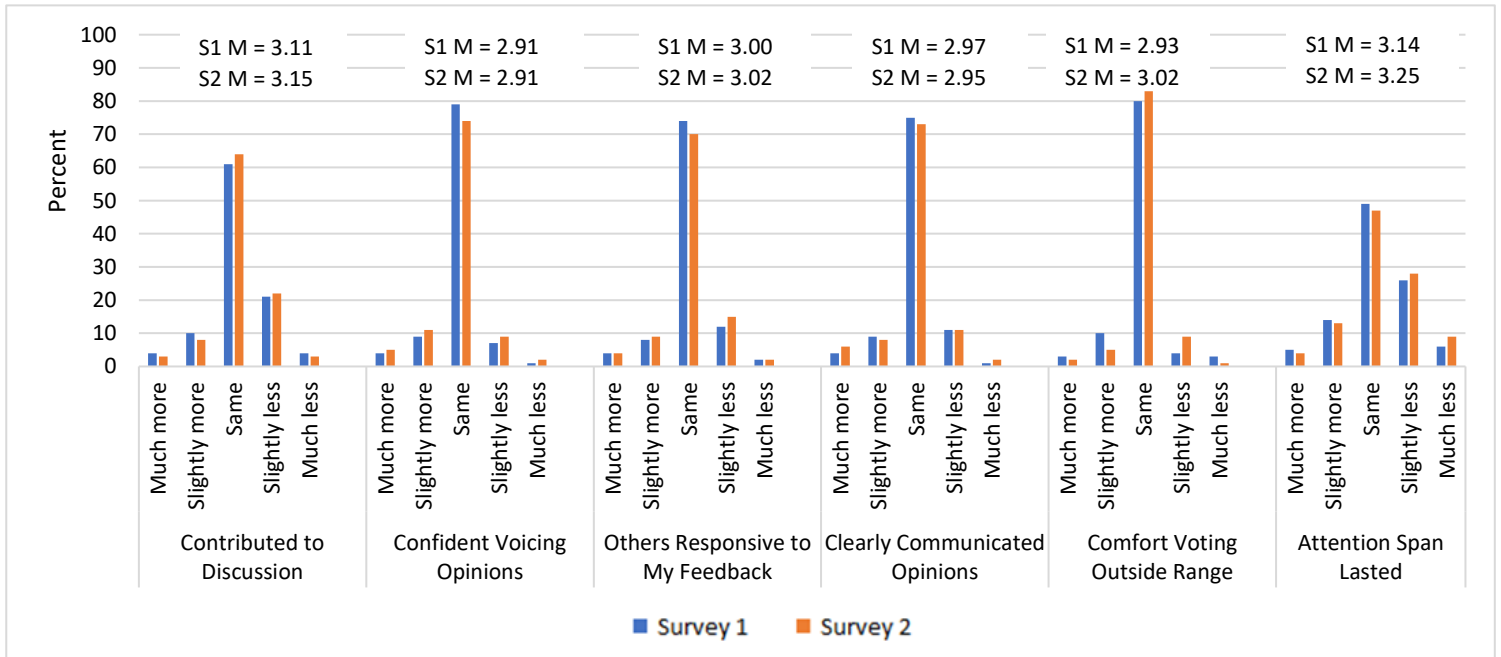


Figure 15. Reviewers' Meeting Participation for **Recurring Small Business Meetings**

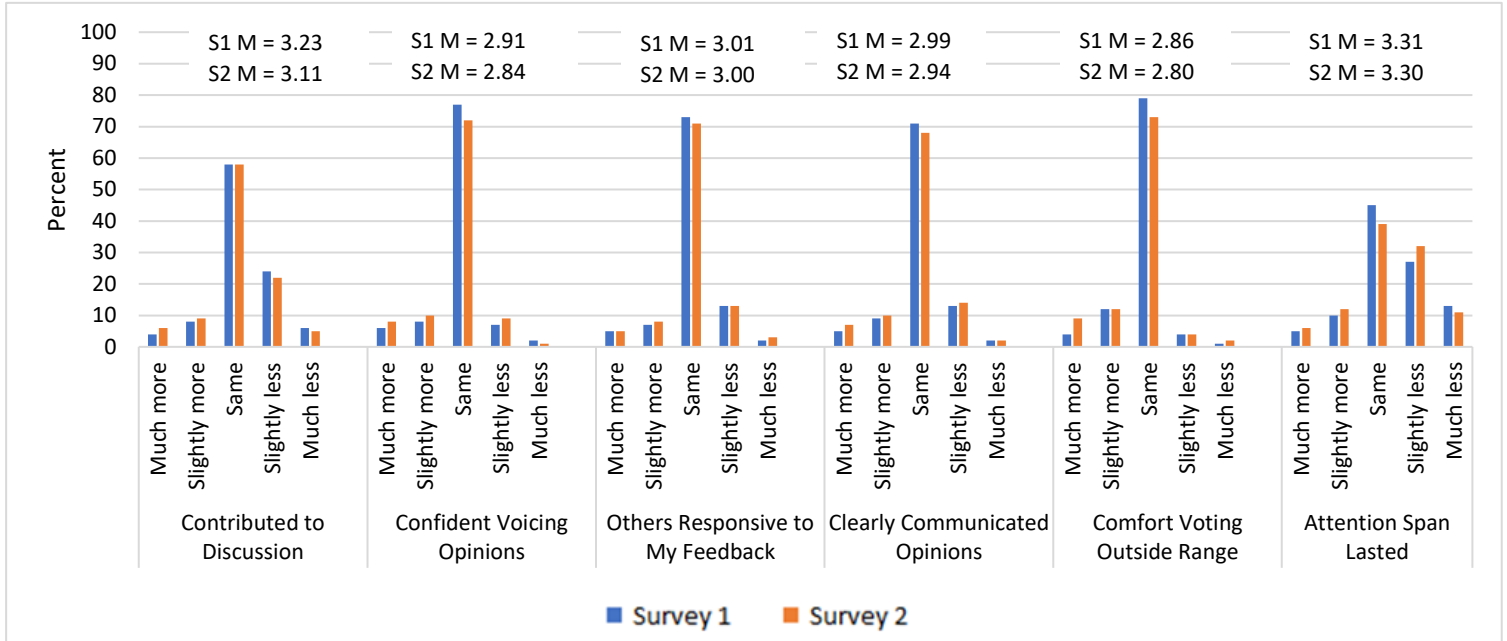
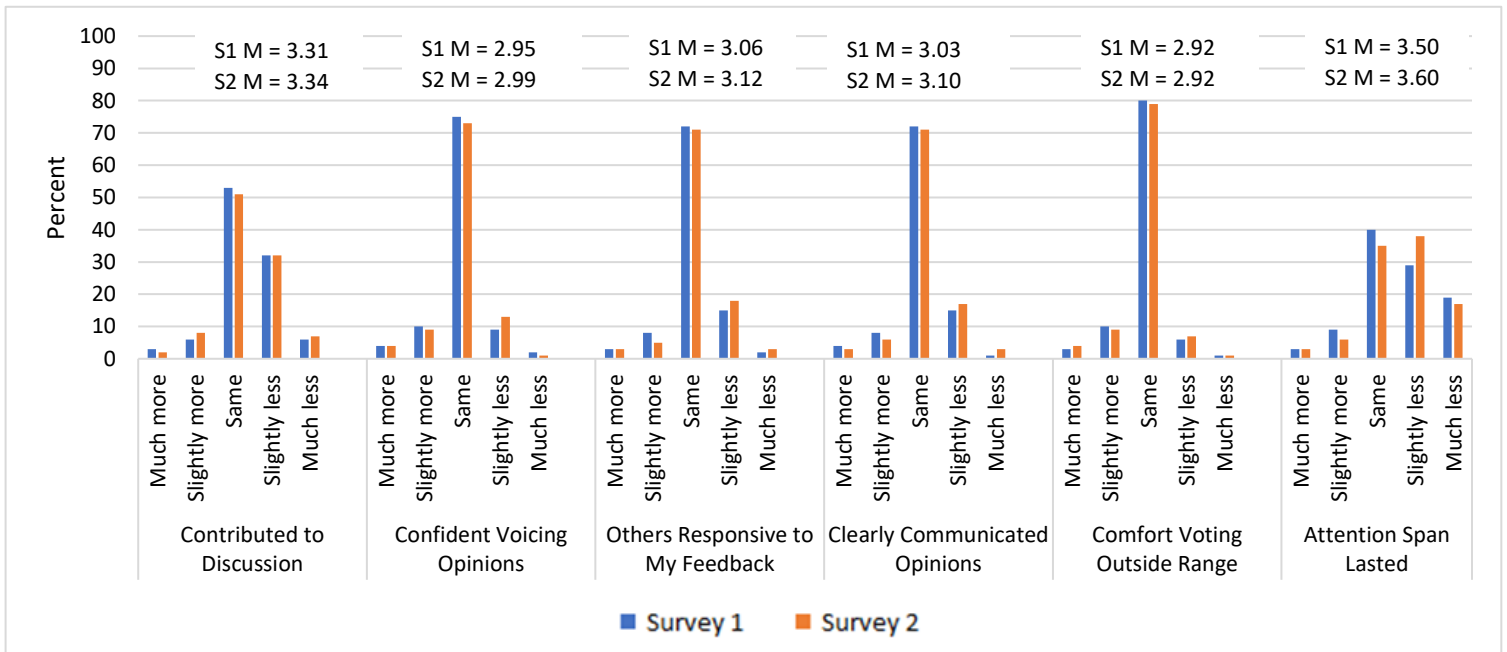


Figure 16. Reviewers' Meeting Participation for **Recurring Fellowships Meetings**



Associations between reviewer characteristics and meeting participation

We also examined associations between reviewer characteristics and reviewer ratings of their participation in meetings. There were a number of statistically significant, but small effect size differences.

## Open-ended, Qualitative Responses

### Survey 1 Zoom Meetings: Reviewers Qualitative Feedback

The major themes from respondent comments in free fields asking for positive and negative aspects of Zoom review meetings are summarized in Table 4.

Table 4. Major Themes

| <b>Positive</b>  | <b>Negative</b>                            |
|--|--|
| No travel  | No social interactions/Camaraderie missing |
| Saves time, cost and energy                                | Prefer face-to-face meeting                |
| Reduces carbon footprint                                   | Less discussion                            |
| Better than teleconference or virtual meeting (Chat-based) | Physical cues missing                      |

### Recommendations from Reviewers

- Have one face-to-face meeting out of 3 meetings for social interactions and camaraderie
- Have a timer for discussions to avoid long meetings
- Provide more breaks to reduce Zoom fatigue
- Include a social hour for networking

### Survey 2 Zoom Meetings: Reviewers Qualitative Feedback

Reviewers were asked to share any comments (positive or negative) about their experience or general thoughts on having their review meeting over Zoom. There were 2,186 comments submitted for this question. Below categorizes the most commonly listed advantages and disadvantages of Zoom reviews, followed by other salient comments.

### Advantages of Zoom Reviews

- Travel
  - No travel; more convenient
  - Saves time, saves money, saves energy
- Equity
  - Opens participation for parents, caregivers, disabled reviewers, industry workers
- Comfort
  - Participate from comfort of home or office
  - Access to resources such as multiple computer screens, coffee, bathroom

### **Disadvantages of Zoom Reviews**

- Quality of Discussion
  - Lower quality; less developed and productive (than F2F)
  - Less discussion from non-assigned reviewers
  - Less effective communication (e.g. difficult to see and read non-verbal cues, have back and forth interactions, jump into the discussion/interrupt, ask questions, circular talking)
- Reviewer Engagement
  - Less engagement and participation (than F2F)
  - Attention span limitations and decreased concentration
  - Fatigue
  - Distractions/split attention/multitasking
- Social Networking and Camaraderie
  - Unable to assess confidence and trust in peer reviewers' judgements and competency (especially for and towards new reviewers and junior colleagues)
  - Stifles the building of relationships with new reviewers (e.g. mentoring, socializing)
  - Hurts ability to build study section community and culture/missed social interactions
  - No opportunity to use or solicit peer reviewers to help with one's own research and career growth
- Meeting Times
  - Longer meetings
  - Too short breaks
  - Start times not friendly to reviewers in Pacific time zone

### **Other Salient Comments**

- Support for a mixed model—alternating between in-person and virtual meetings
- Most reviewers enjoyed the meeting and thought it ran smoothly
- SROs did a great job

## Appendix

### Methods

#### Participants

Reviewers who participated in 276 CSR study section meetings (n = 3403; n for those using Zoom = 3288) between May 27<sup>th</sup> to August 4<sup>th</sup>, 2020 (Survey 1). For Survey 2, reviewers who participated in 293 CSR study section meetings on Zoom (n = 4045) between January 28<sup>th</sup> to April 8<sup>th</sup>, 2021. The study section meetings included chartered panels, recurring special emphasis panels (SEP) such as small business and fellowship reviews, as well as member conflict SEPs.

#### Survey Administration

Reviewers were asked for their participation in a survey via email on the last day of the study section meeting. The email contained a weblink to the survey. Reviewers were told in the email that their responses would be kept confidential and that the survey would take less than five minutes to complete. All surveys returned by August 6<sup>th</sup>, 2020 (Survey 1) and May 10<sup>th</sup>, 2021 (Survey 2) were included for analysis. Copies of the surveys are appended.

#### Measures

##### Application Evaluation (Survey 2 only)

Two items asked participants to rate on a scale from 1 (strongly agree) to 7 (strongly disagree) the panel's ability to evaluate the applications: 1) the panel was able to prioritize applications according to their impact and scientific merit, and 2) the scientific discussion helped the panel evaluate the applications being reviewed.

##### Peer Review Quality

Four items asked participants to rate on a scale from 1 (much better) to 5 (much worse) how their Zoom review meeting compared to their normal face-to-face review meetings for the following items: 1) overall quality of review, 2) productivity of discussions, 3) level of reviewer engagement, and 4) meeting management.

##### Individual Participation and Perceptions

Six items asked participants to rate on a scale from 1 (much more) to 5 (much less) how their Zoom review meeting compared to their normal face-to-face review meetings for the following items: 1) I contributed to the discussion, 2) I felt confident voicing my opinions, 3) I felt others were receptive and responsive to my feedback, 4) I was able to clearly communicate opinions, 5) I felt comfortable voting outside the range, and 6) My attention span at the meeting lasted.

### Format Preference

One question asked participants if there were no or minimal health risks from COVID-19, would they be more likely to participate in a review meeting if it was held face to face or over Zoom/video? Response options included: face-to face, Zoom/video, and no preference.

### Demographic Information

Four questions were used to collect the demographic characteristics of respondents. 1) *Gender*: male, female, I prefer not to respond; 2) *Race*: American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, White, I prefer not to respond; 3) *Ethnicity*: Are you Hispanic? Yes, No, I prefer not to respond; 4) *Career stage*: Assistant Professor, Associate Professor, Professor, Other.

Participants' race and ethnicity were used to determine whether they were an underrepresented minority or not. Non-Hispanic Asians and Non-Hispanic Whites were coded as "not URM" and all other participants were coded as "URM". For participants who identified with more than one racial group, if one racial identity was not White or Asian, they were coded as "URM". Participants who identified as both White and Asian were coded as "not URM"<sup>1</sup>.

### Open-ended Response Options

Reviewers were also given the opportunity to provide any additional comments on overall quality of Zoom review meeting and any comments (positive or negative) about their experience in two text boxes: 1) How was the overall quality of your virtual review meeting compared to your normal face-to-face meetings? (Survey 1 only), 2) Please share any comments (positive or negative) about your experience or general thoughts on having your review meeting over Zoom?

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<sup>1</sup> According to OMB standards, individuals who identify with an Asian racial group, other than Chinese, Filipino, Japanese, Korean, Asian Indian or Thai are considered an under-represented minority (URM). However, the current data does not allow for this level of group specificity, and therefore only Asian participants who identify as Asian and another racial group (other than White) or as Asian and Hispanic are coded as URM.