

‘Breaking Glass’ Podcast: An Online Experiment to Measure Impact

Project Background

Breaking Glass is a meta-analytical and self-reflective exploration of performing arts, hosted by an artist/creator, that includes discussions of stand-alone performances, larger socio-cultural issues, internal dynamics of performing arts institutions, and the larger project’s dual-initiative (podcast and national forums) both across and within each of its five episodes.

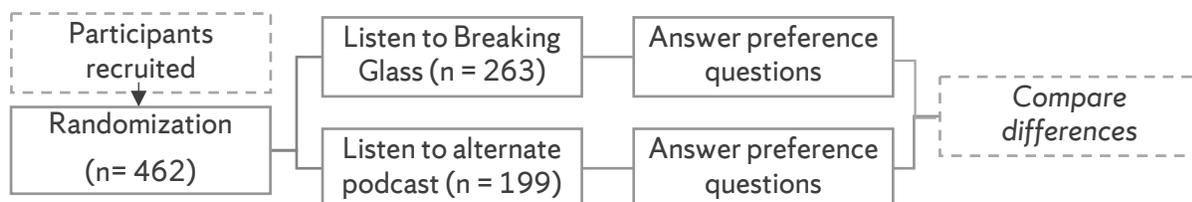
Podcasts commonly solicit listener feedback to understand who is listening and what they think about content. While such feedback plays an important role, especially among devoted subscribers in ongoing podcasts, it is not a reliable indicator of how listening affects preference or attitude changes. Our goal was to measure the potential impact of such a unique podcast on listeners because *Breaking Glass* explicitly intends to open up new audiences and new perspectives.

Research Questions

This experiment has three research focus areas: How does listening to *Breaking Glass* change preferences to (1) attend operas, (2) attend performing arts more broadly, and (3) improving diversity in performing arts.

Research Design

The figure below illustrates our research design. To address these research objectives, we randomized all participants to listen to *Breaking Glass* or a comparison podcast and then asked the participants to answer questions designed to elicit their honest opinions related to our research questions. Random assignment ensures that selection bias is not a factor—e.g., people who choose to listen to an opera podcast could hold different beliefs than those who choose to listen to a different podcast. By comparing the differences in responses to our research questions between the two groups, we can determine the impact of listening to the *Breaking Glass* podcast.



Outcome Measures

Our survey includes three questions to inform our three research objectives. We designed the questions to be brief, direct, and applicable to each podcast without disclosing our particular focus on the opera and their reactions to *Breaking Glass*, in particular.

The first question measures participants' preferences to consume different types of performing arts. Of particular interest is whether listening to *Breaking Glass* makes listeners more or less interested in attending the opera. Participants had to allocate 100 percent of their time among the choices.

1. You have the ability to spend time on any of the following performing arts. How would you allocate your time? (Must total 100%)
 - a. music concerts
 - b. dance performances
 - c. plays
 - d. operas
 - e. other live theatre

The second question determines participants' demand for performing arts overall. Here we are testing whether podcasts about performing arts, including ones on opera, engender a desire to attend more performing arts writ large.

2. If you could attend live performances as much as you want, how often would you go?
 - a. Once a week (or more)
 - b. Once a month
 - c. Once every three months
 - d. Once a year
 - e. Once every 2+ years

The third question captures participants' attitudes toward intentionally improving racial diversity and inclusion within performing arts. Many observers would rightly point that this is ideally a "yes and" scenario, but for our purposes we are keen to understand if participants are seeing diversity as an important goal in its own right.

3. You just received \$100 to spend on one of the following philanthropic goals. Which would you pick?
 - a. Improving the availability of performing arts
 - b. Improving racial diversity and inclusion of performing arts

Comparison Podcasts

We aimed to select a series of podcasts that would help measure the impact of *Breaking Glass* on a few dimensions: interest in opera specifically, interest in the performing arts more generally, and interest in increasing diversity and representation in the arts. By choosing a collection of episodes that differ from *Breaking Glass* on one of these specific dimensions, we can tease apart exactly how *Breaking Glass* changes preferences. Our comparison podcasts were as follows:

- **Opera:** The first comparison episode was “Richard Wagner’s *Die Walküre*” by *The Met: In Focus* podcast. This is an audio podcast by The Metropolitan Opera that “provides historical context about the works and their creators, as well as insightful commentary about the drama and the music, accompanied by excerpts from past Met performances.” This podcast is a more traditional exploration of opera than *Breaking Glass*.
Diversity in the Arts: The second comparison episode was “Chidi and The Good Place” by *The Nod*. This is an audio podcast by Gimlet Media that “gleefully explore[s] all the beautiful, complicated dimensions of Black life.” This podcast thematically parallels *Breaking Glass* in its explicit focus on racial diversity and inclusion of arts and culture, but does not focus on performing arts per se. This particular episode discusses the development and portrayal of a black character (Chidi) in a popular television program (*The Good Place*) with one of its writers.
- **Performing Arts:** The third comparison episode was “Pen-Pal Passion Is Revived in Broadway’s ‘*She Loves Me*’” by *Fresh Air*. This audio podcast of the NPR radio show *Fresh Air* is a “weekday magazine of contemporary arts and issues.” This episode, like *Breaking Glass*, discusses performing art—*She Loves Me*, a revival of the 1963 musical—with their creator—Director Scott Ellis and lyricist Sheldon Harnick.
- **General Arts and Culture:** The fourth comparison episode was “Try This At Home, Kids: Adam Savage on the Next Generation of *MythBusters*” by *Fresh Air*. This audio podcast of the NPR radio show *Fresh Air* (same podcast as above) is a “weekday magazine of contemporary arts and issues.” This is analogous to a control podcast. Although it is a discussion with a creator and performer, it is importantly a non-fiction television program, and differs the most from *Breaking Glass*.

Participants

Our participants were recruited through two pathways: Amazon Mechanical Turk (MTurk) and Qualtrics. MTurk is a crowdsourcing marketplace in which requestors can publish paid tasks and workers complete them online. MTurk is a validated tool to conduct online lab experiments.¹ To increase the age, educational, gender, and racial/ethnic diversity of our sample, we actively monitored the demographics of respondents and created filters to limit access to over-represented groups. We also supplemented our sample with Qualtrics panels to increase the overall diversity of the sample.

Assignment and Implementation

We built a series of surveys within Qualtrics to assign and track outcomes. After agreeing to participate, participants were randomized to listen to one of nine podcasts (five Breaking Glass episodes and four comparison episodes). These episodes played automatically from SoundCloud embedded music players (control episodes were trimmed to remove ads or other segments). The survey itself included a timer to ensure that participants could not simply skip over the podcast.

After completing the podcast, participants answered two comprehension questions. Participants knew in advance that they must answer the comprehension questions correctly to finish the survey and get credit. These basic listening checks asked for the name of the podcast and what type of performance the podcast discusses (e.g., opera, Broadway, television).

All remaining questions were identical. Participants then answered a scale (0-10) feedback question (“would you recommend this podcast to a friend or family member?”) and were given the option to provide open-ended feedback.

Participants were lead to believe their main task was done (i.e., providing feedback) and were told “we want to understand a bit more about you.” This partially masked the importance of the following three questions connection to our primary outcome measures to mitigate response bias (i.e., saying what they think we want to hear).

Participants answered the three outcome measure questions above. The remaining four questions were demographic. Specifically, they asked for participants’ education, age, gender, and race/ethnicity. These questions were left to the end to avoid stereotype threat—priming participants to think about their identity can cause participants to unwittingly conform to stereotypes about their gender or racial group.

Results

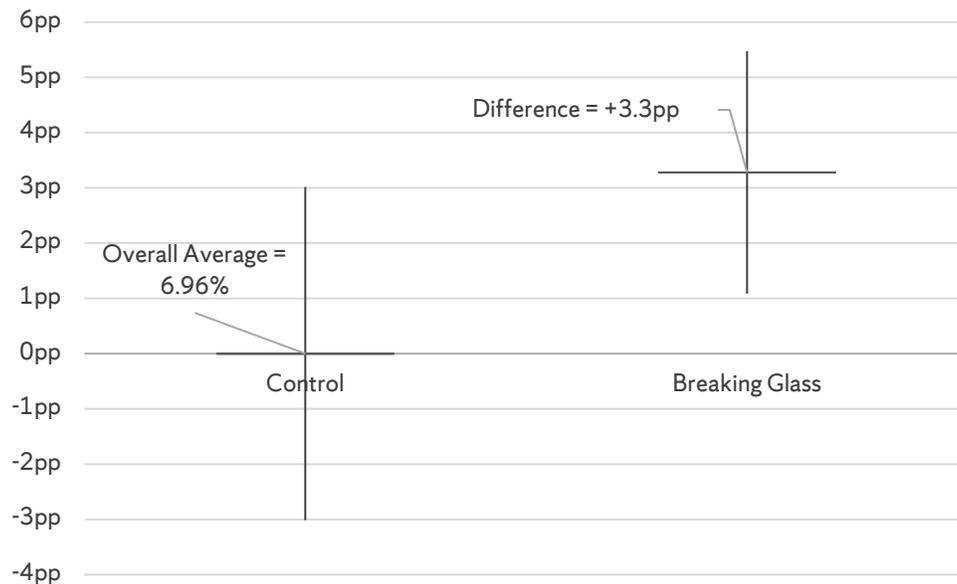
All the results below control for demographic variables. This allows us to measure more precisely the impact of the podcast itself by statistically controlling for any education, gender, age, and race differences across the podcasts.

In the graphs below, horizontal lines correspond to average differences between podcasts and vertical lines represent the 95 percent confidence interval for each podcast’s average result. As the confidence interval moves away from a 0 percentage point difference (i.e., less overlap) in the graphs below, we can be increasingly confident there is a real difference and it is not a random fluke.

Opera Allocation

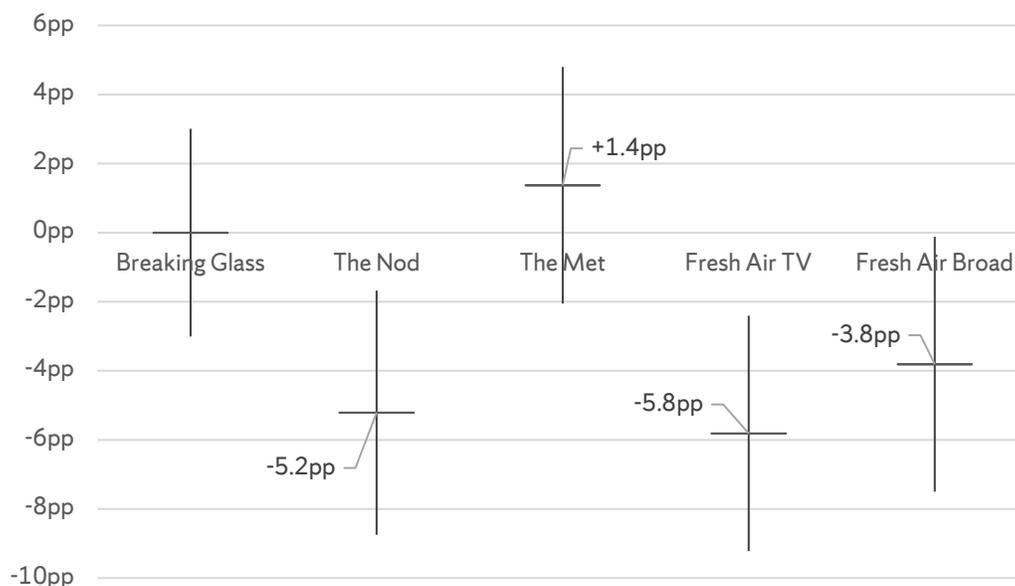
We find (Figure 1) that participants who listened to *Breaking Glass* wanted to allocate 47 percent (or 3.3 percentage points) more time to the opera compared to the average among the alternate podcast listeners (control). On average, the comparison podcast group wanted to allocate around 7 percent of their performing arts time to the opera.

Figure 1: Difference in Performing Arts Allocation to Opera



Compared to each episode individually (Figure 2), listeners of *Breaking Glass* wanted to attend the opera between 57 and 129 percent more (3.8 to 5.8 percentage points) than three of its comparisons. Listeners of podcasts about television programs (*The Nod* and *Fresh Air TV*) had the lowest allocation to the opera. Listeners of *The Met* podcast report wanting to attend the opera slightly more than *Breaking Glass*, but these results could be random chance (i.e., confidence intervals overlap).

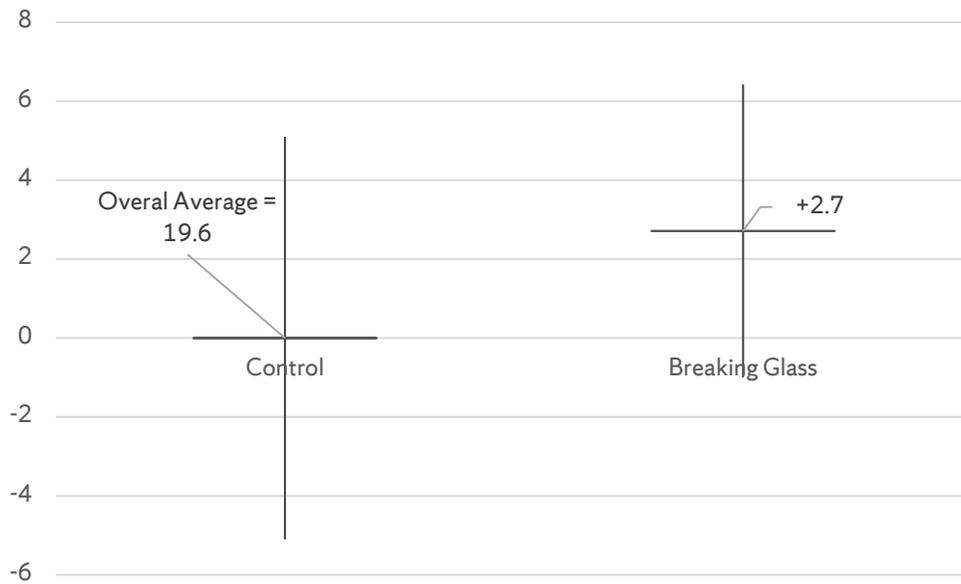
Figure 2: Difference in Performing Arts Allocation to Opera by Episode



Performing Arts Attendance

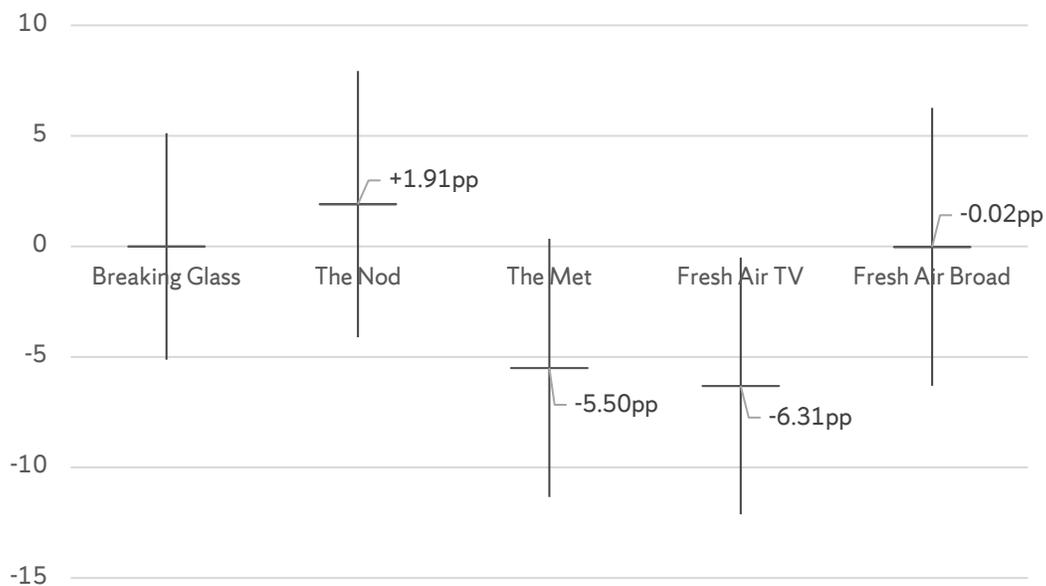
Participants who listened to *Breaking Glass* wanted to attend performing arts 14 percent more (2.7 more performances) than the average among the comparison podcast listeners (Figure 3). There is a 15 percent chance these results are a red herring (given our data), but it provides some suggestive evidence that listening to *Breaking Glass* could increase demand for performing arts overall.

Figure 3: Difference in Desired Performing Arts Yearly Attendance



When broken out by episode (Figure 4), listeners of the diversity-related podcasts have the highest demand for performing arts (*The Nod* and *Breaking Glass*). We cannot be confident of any real differences between *Breaking Glass*, *The Nod*, and the Broadway episode on *Fresh Air*, but it does appear that listeners of *The Met* and the television episode of *Fresh Air* wanted to attend performing arts less often than *Breaking Glass* listeners (5.5 to 6.3 fewer times).

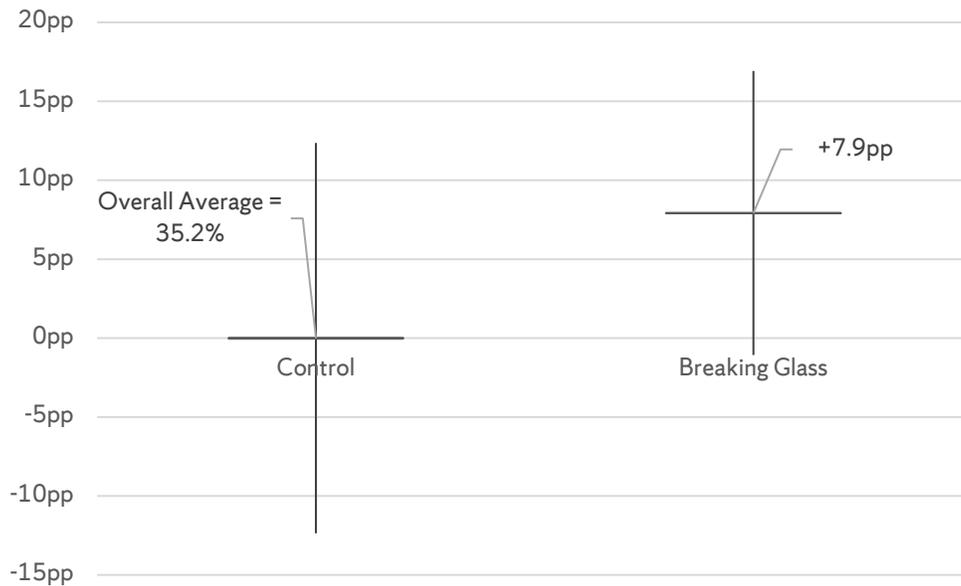
Figure 4: Difference in Desired Performing Arts Yearly Attendance by Episode



Improving Diversity and Inclusion

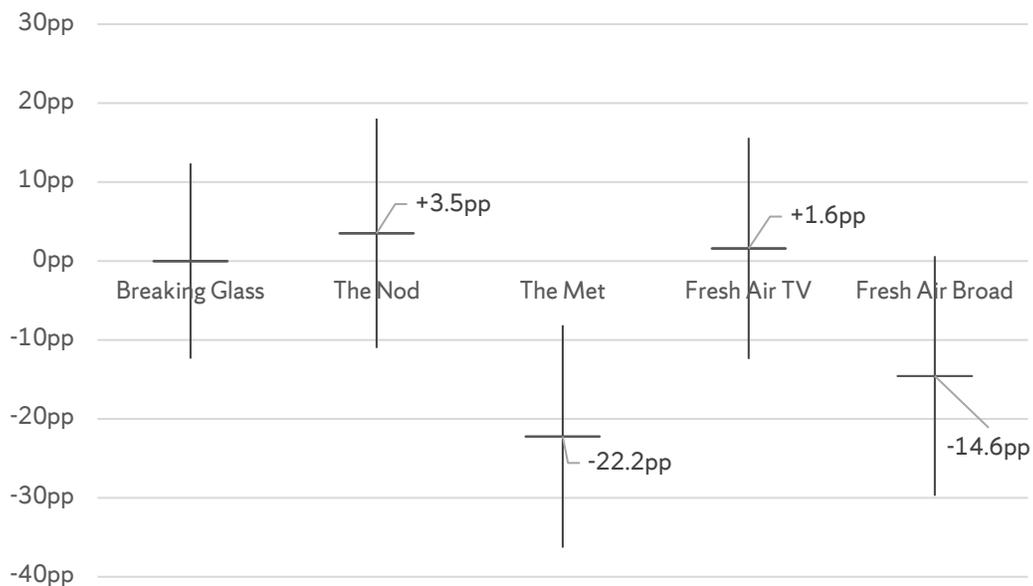
Compared to the average among the alternate podcast group, listeners of *Breaking Glass* were 22 percent more likely (7.9 percentage points) to support racial diversity and inclusion in performing arts (Figure 5). We are more confident in this result than in Figure 3, i.e., there is a good chance *Breaking Glass* altered perspectives on diversity and inclusion in our survey.

Figure 5: Difference in Willingness to Support Improving Diversity and Inclusion



Participants who listened to *Breaking Glass* were 53 to 100 percent more likely (14.6 and 22.2 percentage points) than listeners of *The Met* and the Broadway episode of *Fresh Air* to support diversity in the survey (Figure 6). *Breaking Glass*, *The Nod*, and the television episode on *Fresh Air* appear to have similar impacts on listeners. Interestingly, the *Fresh Air* television episode has no discussion of diversity and the host and guest are both white males.

Figure 6: Difference in Willingness to Support Improving Diversity and Inclusion by Episode



Discussion

Our experiment finds that *Breaking Glass* increases interest in opera (+47% on average); likely improves support for diversity and inclusion in performing arts (+22% on average); and seems to improve listeners' desire to attend performing arts, broadly (+14% on average).

The Met has similar impacts to *Breaking Glass* on boosting interest in opera, but falls behind in affecting listeners' willingness to support diversity and inclusion in performing arts (half as likely to support diversity).

On support for diversity and desire to attend performing arts, *Breaking Glass* performs approximately as well as *The Nod*—a popular weekly podcast, by Gimlet Media, explicitly dedicated to telling stories of Black life. However, *The Nod* listeners want to spend half as much time at the opera as *Breaking Glass* listeners.

The differences between *Breaking Glass* and *Fresh Air* vary by dimension. Compared to the Broadway episode, *Breaking Glass* appears to affect listeners' desire to see performing arts equally, but increases listeners' interest in the opera and improving diversity. Compared to the television episode, *Breaking Glass* appears to affect listeners' equally on improving diversity, but increases listeners' interest in the attending performing arts and the opera, specifically.

Appendix

Below is an assortment of summary data.

Figure 7: Performing Arts Percent Allocation by Episode

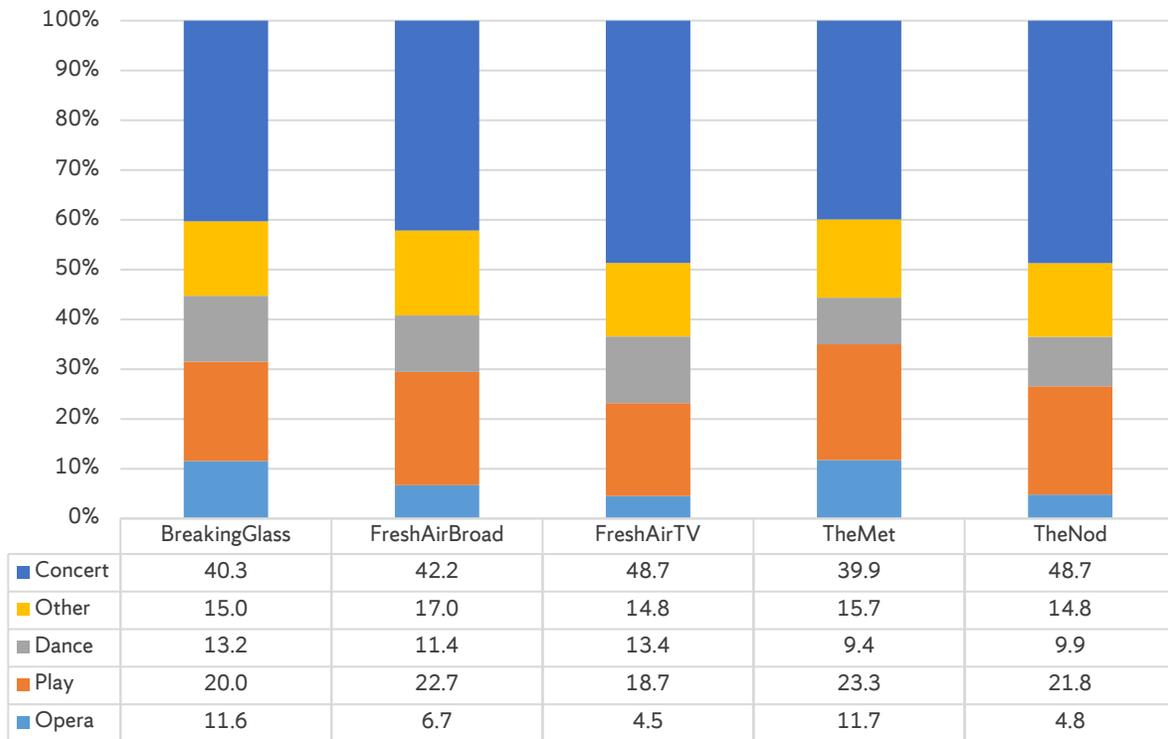


Figure 8: Desired Performing Arts Attendance by Episode

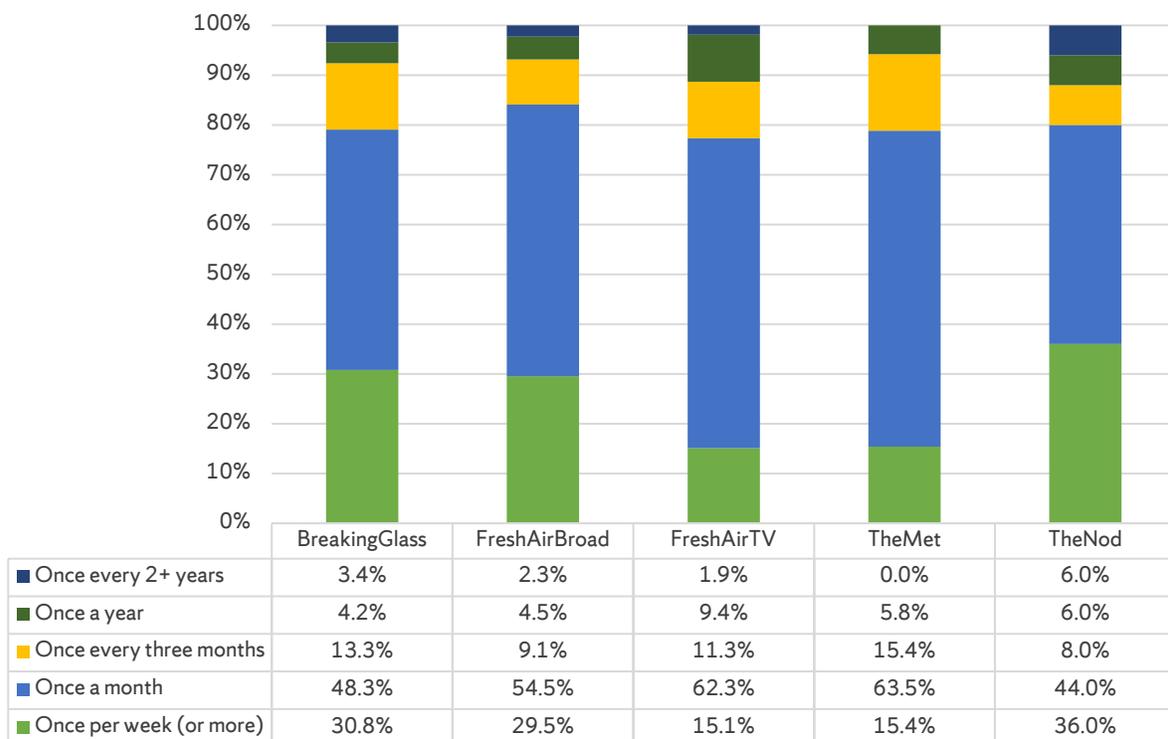


Figure 9: Performing Arts Funding Decision

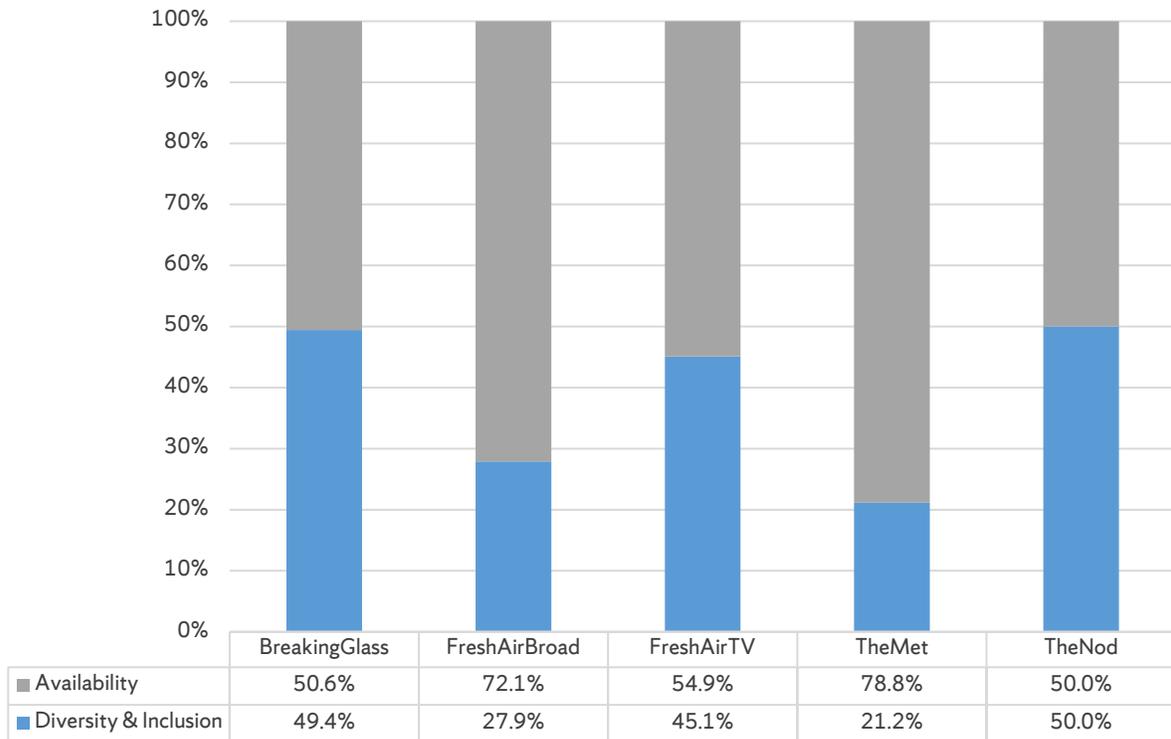


Table 1: Participants by Highest Education

	HS	Associates	Undergrad	Graduate school	Doctorate	Total
Breaking Glass	80	46	102	33	2	263
Fresh Air Broadway	13	8	15	7	1	44
Fresh Air TV	17	10	22	2	2	53
The Met	20	11	17	4	0	52
The Nod	11	16	16	6	1	50
Total	141	91	172	52	6	462

Table 2: Participants by Age

	18-24	25-34	35-49	50-64	65+	Total
Breaking Glass	23	114	67	49	10	263
Fresh Air Broadway	0	14	17	8	5	44
Fresh Air TV	3	17	19	7	7	53
The Met	6	17	12	10	7	52
The Nod	3	8	21	14	4	50
Total	35	170	136	88	33	462

Table 3: Participants by Gender

	Female	Male	Non-Binary	Total
Breaking Glass	125	137	1	263
Fresh Air Broadway	27	17	0	44
Fresh Air TV	32	21	0	53
The Met	24	28	0	52
The Nod	33	17	0	50
Total	241	220	1	462

Table 4: Participants by Race/Ethnicity

	Asian	Black	Hispanic or Latino	Middle Eastern or North African	Native American	Hawaiian or Pacific Islander	White
Breaking Glass	27	41	23	1	8	7	156
Fresh Air Broadway	2	3	3	0	1	0	35
Fresh Air TV	5	4	4	0	1	0	39
The Met	3	4	8	1	0	0	36
The Nod		6	6	0	1	0	37
Total	37	58	44	2	11	7	303

¹ Thomas, Kyle A., and Scott Clifford. "Validity and Mechanical Turk: An assessment of exclusion methods and interactive experiments." *Computers in Human Behavior* 77 (2017): 184-197.