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A knowing ear: The effect of explicit information on children's experience of a musical performance

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Abstract

Program notes are distributed before performances at arts centers throughout the country, but research on the effects of this kind of explicit information on audience experience has led to contradictory findings. This study experimentally manipulated the kind of information given to 506 schoolchildren attending a music performance at a local arts center, and assessed the effects of this information on their enjoyment of, attention to, and comprehension of the performance. Results suggest that explicit information of the sort found in a program note can elevate the attention children pay to a performance and their comprehension of it. Program notes did not as a rule elevate enjoyment, except in the case of a subgroup of participants for whom the performance was likely a new experience. This difference suggests that listeners' prior experience may be an important mediating factor in the relationship between program notes and enjoyment.

Keywords

children, conceptualization, musical enjoyment, program notes, verbal overshadowing

Students often attend artistic performances at local art centers as part of their elementary school experience. Although these field trips have goals ranging from improving students' understanding of particular curricular topics to increasing students' capacity to appreciate and enjoy the arts, strikingly little research engages the question of how to maximize the impact of these experiences. One common practice is to provide students with some kind of information about the performance beforehand. But how effective is this strategy?

Although the prevalence of the pre-performance program note – the leaflet of information provided as a patron enters the hall – suggests that such information is unequivocally

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beneficial, there are well-documented cases where possessing information about an experience can prove detrimental. Describing a face decreases memory for it in comparison to not describing it (Schooler & Engstler-Schooler, 1990): describing the taste of jam decreases taste discrimination in comparison to not describing it (Wilson & Schooler, 1991). Explaining their thought processes as they work reduces people's ability to solve insight problems (Schooler, Ohlsson, & Brooks, 1993). Labeling an object, such as a chair, by its basic-level category (i.e., "chair") makes it more difficult to remember that particular chair (Lupyan, 2008). Taken as a whole, this literature on "verbal overshadowing" serves as a forceful reminder that there are modes of perception not only not aided, but actually harmed by verbal description. Exceptions include studies about the role of information in the visual arts, where studies have shown that information can enhance satisfaction and understanding in viewing art (Lachapelle, Murray, & Neim, 2003; Temme & Elbert, 1992). Since musical listening has often been thought about as nonconceptual in important ways (Abbate, 2004; DeBellis, 1995), it might seem particularly susceptible to verbal overshadowing.

Musical performance presents a special challenge for interrelating verbal description and perceptual experience. Zalanowski (1986) studied listeners' enjoyment and understanding of music when provided with abstract or analytical programs. Her results showed some benefits to comprehension, but no effects on enjoyment. Similarly, Silveira and Diaz (2012) showed that the presence of subtitles containing English translations of the dialogue resulted in increased attention from opera viewers, but a lower magnitude of affective response as measured using a continuous response paradigm. The impact of information on enjoyment might vary according to the musical style, however. An early study by Damon (1933) found that program notes actually enhanced listener enjoyment for unfamiliar music. The impact of information on enjoyment might also vary according to the type of information presented. Halpern (1992), for example, found that providing contextual and historical background information about composers had a positive effect on listening experiences, while providing analytical information about the music's structure had no effect. Margulis (2010) showed that adult listeners actually enjoyed excerpts from Beethoven String Quartets more when they were not preceded by short verbal accounts. The generalization of these findings, however, to child listeners, full-length performances, and other types of more or less complex music, is unknown.

The problem is compounded by the fact that musical enjoyment is a little-understood phenomenon. In a study representative of efforts to explain musical enjoyment, Thompson (2007) failed to explain more than 60% of variability in participant's enjoyment ratings of musical excerpts even when including all the factors hypothesized to play a role. The Public Radio Program Directors Association released a report (2007) of a broad survey of classical music listening habits, emphasizing that people tended to seek out classical music on the dial for "emotional" rather than "intellectual" motives. Todd and Mishra (2013) offer a summary of efforts to make listening experiences more meaningful to schoolchildren, concluding that kinesthetic involvement and repeated exposures are two of the most reliable strategies.

Edward Cone (1977) proposed that listeners go through three stages when getting to know a piece of music across multiple exposures. On the first encounter, the experience is primarily sensory and unmediated. During the second stage, listeners use concepts and language to make sense of the piece and its structure, moving back and forth from the plane of experience out to thoughts about it. In the final stage, listeners have sufficiently absorbed the information about the piece for it to have become second nature, and the listening experience can once more be sensory and fully engaged, but with an elevated level of understanding. If program notes can

sometimes have a negative effect, it could be because they force listeners into a kind of "second stage" experience, since the time period for engagement with the information is insufficient to allow thorough absorption and the audience member may find herself distracted during the performance as she works to apply the concepts to the sounds.

Although there has been only scant study about the impact of pre-performance information on adults, there has been even less study of the impact of such information on children. Asking the question within this population can shed light on the relationship between human development and the verbal overshadowing effect – is there a stage at which children can more fluidly and plastically relate conceptual information to sensory experience? It can also provide practical insight into questions about best practices in arts exposure and education. Is it beneficial to provide students explicit information minutes before they see a show?

Method

Participants

In November of 2012, through field trips facilitated by their parents, teachers, and school administrators, 506 students (M = 4.11 grade level, SD = 1.41 grade level; 51% female) in Northwest Arkansas signed up for a field trip to attend a live musical performance. Students were bused from area elementary schools to the Walton Arts Center in Fayetteville, Arkansas for a performance of Eileen Ivers' *Beyond the Bog Road*.

Stimuli

During the hour-long performance, fiddler Eileen Ivers and the four members of her band, *Immigrant Soul*, used music and video to explore the influence of immigrant music, especially the music of the Irish, on styles now thought of as quintessentially American, such as bluegrass. Additionally, Ivers spoke to the students between songs, during which she told stories about the origins of the music and the instruments. The Walton Arts Center features a proscenium stage and seats 1,201 distributed between a main floor and a balcony.

Procedure

Once the students were seated, a Walton Arts Center staff member made an announcement about the program note from the stage, and volunteers distributed either a program note or a placebo note to each student (see Appendix A). The program note and the placebo note were written by the Walton Arts Center's Vice President of Learning and Engagement, Laura Goodwin, who was accustomed to authoring such material. The note contained explicit information about the performance and its significance. The placebo note, written to match the length and the complexity of the program note, contained information about the venue of the Walton Arts Center, but no information about the specific show. The placebo note was included in order to control for the effect of the act of reading information before the start of a show, making it possible to isolate in the experimental condition the effect of reading information that truly related to the performance. Distribution of the notes alternated by row, with one row receiving the program note, the next the placebo note, the next the program note, and so on. The goal was to make sure that an individual student's immediate neighbors received the same note, minimizing treatment contamination as well as the potential for

Table 1. Student sample characteristics.

Characteristic	Treatment mean ($n = 264$)	Control mean ($n = 242$)	Difference
Average grade	4.05	4.19	−.14
Female (%)	52.29	49.79	2.50
White (%)	66.42	59.26	7.16*
Hispanic (%)	12.83	17.28	−4.45
Black (%)	6.79	4.93	1.9

$p < .10$, two-tailed.

students inferring the purpose of the experiment, but at the same time ensuring that both note types were distributed equally throughout the theater's different seating sections. Once students had been given ample time to read the notes, they were collected and the show began. The alternating row procedure worked well, and independent t tests indicate treatment and control groups are statistically similar on important characteristics. There were no significant differences in the average grade of the treatment group ($M = 4.01$) and the control group ($M = 4.19$), the proportion female in the treatment group (52%) and the control group (50%), the percent Hispanic of the treatment group (13%) and the control group (17%), and the percent Black of the treatment group (7%) and the control group (5%) (Table 1). There was, however, a marginally significant difference on percent White between the treatment group (66%) and control group (59%), $t(504) = 1.67$, $p = .096$.

Immediately after the hour-long performance, while they still sat in their seats, students were distributed a survey printed on cardstock along with a pencil (see Appendix B). The survey collected general demographic information, a self report as to whether or not the student had read the program note carefully, and self reports about the degree to which students had enjoyed the show, comprehended it, and paid attention and found it interesting. The survey was constructed with the assistance of education staff at the Walton Arts Center, who provided guidance in terms of content alignment and student readability. Students answered these questions by indicating agreement to statements with one of four options: strongly agree; somewhat agree; somewhat disagree; strongly disagree. The final part of the survey used five multiple choice questions to test their comprehension of the performance.

Results

The size of impacts and their significance were generated through multivariate regression estimations. Multivariate regression is functionally equivalent to ANCOVA estimation and provides estimates of the linear relationship between a key independent variable while controlling for demographic covariates to increase precision. This method also allows the use of interaction terms to examine subgroup effects, which we do in our final results section. The key independent variable of interest was equal to 1 if a student was in the treatment group (received the program note) and equal to 0 if the student was in the control group (received the placebo note). Additionally, covariates indicating gender, grade, and ethnicity (Hispanic, white, American Indian, African American, Marshallese, and Asian) were included in the regression estimations to improve the precision of the estimates and to control for minor differences between the treatment and control groups.

Table 2. The effect of a performance note on enjoyment levels.

Survey question	Treatment %	Control %	Difference
I enjoyed the performance.	94.17	94.98	−.81
I want to attend another performance like this.	92.29	91.06	1.22
This is one of the best shows I have seen.	83.81	79.46	4.35

Note. Treatment and control group means show the combined percent of students who answered "somewhat agree" or "strongly agree" to the survey question. Estimates are obtained from regression models that control for student gender, grade, and ethnicity.

Table 3. The effect of a performance note on comprehension.

Survey question	Treatment %	Control %	Difference
What is the name of Eileen Ivers' band? (*Immigrant Soul*)	72.11	53.91	18.20***
Irish immigrants first arrived in America more than: (*200 years ago*)	54.55	25.10	29.44***
The "bog" is: (*the soft, muddy earth of Ireland*)	69.88	57.61	12.27***

Note. Treatment and control group means show the percent of students who answered the survey question correctly. Estimates are obtained from regression models that control for student gender, grade, and ethnicity.
*** $p < .01$, two-tailed.

The treatment group and control group did not significantly differ in self-reports of reading the program note, $t(465) = .20$, $p = .843$. Of both the treatment group and the control group, 87% responded that they somewhat agreed or strongly agreed with the statement "I read the program note carefully."

Receiving program information about the performance had no statistically significant effect on enjoyment as measured by questions asking students about their enjoyment, $t(471) = -.37$, $p = .709$; desire to attend another similar performance, $t(466) = .45$, $p = .652$); or whether or not the show was among the best the student had ever seen, $t(446) = 1.23$, $p = .218$). Table 2 shows the treatment and control group means and differences.

The performance note did, however, have an effect on comprehension, as measured by higher accuracy rates on students' ability to identify the name of Eileen Ivers' band, $t(479) = 4.44$, $p < .001$; know how long ago Irish immigrants arrived in America, $t(479) = 6.88$, $p < .001$); and know the contextual meaning of the word "bog," $t(479) = 2.90$), $p = .004$. During the show, the name of the band was announced to all students and appeared on a video screen behind the performers. In addition, the performers in the show verbally described the history of Irish immigrants and the meaning of the word "bog." Yet, students who received the program note containing this information were better able to absorb these details (Table 3).

In what may have been a mediating effect underlying the increased comprehension, students who received the non-placebo program note reported thinking about it more during the performance, $t(470) = 1.67$, $p = .096$; and they reported that they paid more attention to the performance, $t(471) = 2.06$, $p = .040$. Table 4 shows the treatment and control group means and differences.

There were interactions in some of these effects for Hispanic students ($n = 76$). For this group only, students who received the program note indicated that they would like to see another

Table 4. The effect of a performance note on attention.

Survey question	Treatment %	Control %	Difference
I thought about the information in the program note during the performance.	68.89	61.60	7.29*
I paid attention to the performance.	94.90	89.58	5.32**

Note. Treatment and control group means show the combined percent of students who answered "somewhat agree" or "strongly agree" to the survey question. Estimates are obtained from regression models that control for student gender, grade, and ethnicity.
* $p < .10$; ** $p < .05$, two-tailed.

Table 5. The effect of a performance note on Hispanic students.

Survey question	Treatment %	Control %	Difference
I want to attend another performance like this.	86.54	66.67	19.87*
This performance was interesting	97.53	75.00	22.53**

Note. Treatment and control group means show the percent of students who answered "strongly agree" to the survey question. Estimates are obtained from regression models that control for student gender and grade.
* $p < .10$; ** $p < .05$, two-tailed.

program like this at a statistically higher level than the control group, $t(471) = 1.82$, $p = .069$. Additionally, Hispanic students in the treatment found the show more interesting if they received a program note, $t(468) = 2.27$, $p = .024$ (Table 5).

Discussion

This study's results are consistent with the idea that program notes help children pay more attention to a performance and retain more information about it. Children might have less experience than adults in the aesthetic mode of attending, and may benefit from the conceptual framing offered by a program note. Without such conceptual scaffolding, they might find their mind wandering during a performance. This increased attention may have contributed to the better comprehension shown by students receiving the program note. The program note primed them to engage with the conceptual content of the performance, the content assessed by the comprehension question.

Curiously, however, this increased attention and increased comprehension was not associated with any main effect on enjoyment. From a practical perspective, the fact that program notes seem to increase attention and improve comprehension without damaging enjoyment seems an argument in their favor. But this disassociation between attention/comprehension on the one hand and enjoyment on the other suggests a dawning awareness of an aesthetic dimension to performances that is separate and distinct from the conceptual levels reflected by the comprehension questions and the abstract thinking reflected by the attention questions.

The children in this study likely had less cumulative experience with musical listening than the adults in the Margulis (2010) study. Accordingly, they may have needed the in-roads provided by the note to successfully absorb the informational content in the performance. Without the extensive familiarity most adults have with musical performance, the students may have been less susceptible to being pushed into Cone's overly analytic "second-stage" experience; rather, the note may have provided just enough content to make a "first stage" reading easier

for them. Without the refined musical schema adults have had a lifetime to acquire implicitly, they may have also been less susceptible to the effects of verbal overshadowing. Rather than colonizing an already robust musical representation, the verbal information may have been contributing to the formation of the musical representation in the first place.

Since it is possible that students might have performed well on the questionnaire using information exclusively from the program note rather than from its integration with the performance, future studies might consider a control condition in which a separate group of students answers the questionnaire after reading the program note, without seeing the performance at all. Although this study sought to control the amount of contact students had with the information contained in the program note, future studies might consider letting participants consult the note during the performance to increase ecological validity, as concertgoers normally have access to the program booklet during the event (much to the chagrin of certain audience members).

Given the demographics of the region, the category of Hispanic might serve as a proxy for disadvantaged students because many of the Hispanics in the area are recent immigrants. Although an effect did not hold across the entire participant pool, this subgroup of more disadvantaged students reported enjoying the performance more if they had received a program note. These students may have had less previous access to the performing arts, and the program note might have provided essential foundational information that allowed them to structure the new experience. The newer a person is to an artistic experience, the more they might benefit from a simple pre-performance note. Disadvantaged children who might have lacked exposure to the arts experienced more enjoyment, paid more attention, and showed more comprehension of a performance if they read a program note immediately beforehand. Children who might have had more prior exposure to the arts did not experience the benefit of additional enjoyment after reading a program note, but did experience the benefits of increased attention and comprehension. Adults, who presumably had much more exposure to the arts than either group of children, actually experienced less enjoyment of the performance if given a program note immediately beforehand (Margulis, 2010). Receiving a little information at the last minute in the form of a program note, based on these speculations, seems helpful if audience members come into the experience without much prior experience with similar events, but potentially detrimental if they come into it with a lot of prior experience.

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Appendix A: Treatment and control program notes

Program note

Musician Eileen Ivers played the fiddle as a child. While still a teenager, she won many important Irish music awards. The daughter of Irish immigrants, Eileen grew up near New York City in a neighborhood of people from around the world. Every summer, she would go to Ireland to see her grandparents. These trips deeply connected her to her Irish heritage. She loved the people, the music and even the soft, muddy earth of Ireland known as a *bog*.

Eileen's band is called *Immigrant Soul*. The band has four musicians who play familiar instruments like guitars, basses, drums, keyboards and harmonicas. They also play Irish instruments like the Irish *bouzouki* and *bodhran* as well as African drums. Their music brings traditional Irish music together with rhythms and sounds from the American art forms of jazz, blues and rock-and-roll.

The Irish made a big difference in the United States and Arkansas. The first Irish immigrants arrived more than 200 years ago and brought their fiddles with them. Many arrived in Philadelphia and were early settlers in Pennsylvania, Maryland, Virginia, Tennessee, the Carolinas, and Arkansas. These immigrants literally saved Irish music from oblivion. In their homeland, there was prejudice against Irish culture and the desire to destroy its traditions. It's because of Irish immigrants in North America that the world can still enjoy traditional Irish music today.

Program note

For 20 years, Walton Arts Center has brought artists and entertainers from around the world to Northwest Arkansas. Since opening in 1992, almost 2 million people have come through the doors. Walton Arts Center presents world-class artists from around the world, creates model arts education programs and makes Northwest Arkansas more fun and culturally vibrant.

The word theater means more than the space where live performances are presented. Theater refers to all the things that are connected to theatrical arts including live performances as well as scenery, lighting, costuming, dancing, singing, acting and playing musical instruments. The theater is a busy place day and night; each day people work in business, production, events, education, administration and facilities.

Theater spaces around the world vary by both size and seat arrangement in relation to the stage. At Walton Arts Center, you can see three theater types: an amphitheater, a black box theater, and a proscenium arch theater. Baum Walker Hall, where you sit today, is an example of a proscenium arch theater. The proscenium is the large frame-like opening that surrounds the stage. In some theaters, the proscenium is an actual arch. Whether curved or straight, the arch helps the audience focus their attention on the performance on stage.

Appendix B: Survey instrument

Part one: General information

1) **Are you a**: ○ Boy? ○ Girl?
2) **What grade are you currently in?** ○ 2nd ○ 3rd ○ 4th ○ 5th ○ 6th ○ 7th
3) **How would you identify yourself?**
   ○ Hispanic/Latino ○ White ○ American Indian ○ Black or African American
   ○ Marshallese ○ Asian ○ Other: _____

Part two: Do you agree or disagree with the following statements?

4) **I read the program note carefully.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
5) **I understood the information in the program note.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
6) **I thought about the information in the program note during the performance.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
7) **I enjoyed the performance.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
8) **I want to attend another performance like this.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
9) **I would like to learn more about the history of Irish music.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
10) **I paid attention to the performance.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
11) **This performance was interesting.**
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree
12) **This is one of the best shows I have seen**.
   ○ Strongly disagree ○ Somewhat disagree ○ Somewhat agree ○ Strongly agree

Part three: Select the best answer to each question

13) **The parents of fiddler Eileen Ivers came from:**
   ○ France ○ Spain ○ Africa ○ Ireland

14) **This program showed that:**
- ○ Immigrant music is another kind of music, separate from American music.
- ○ Immigrant music helped shape American music.
- ○ Immigrants came from far away and did not bring their music to America.
- ○ Immigrants play music because Americans play music.

15) **What is the name of Eileen Ivers' band?**
- ○ The Sham Rocks ○ Being Green ○ Immigrant Soul ○ Eileen and the Bogs

16) **Irish immigrants first arrived in America more than:**
- ○ 50 years ago ○ 100 years ago ○ 150 years ago ○ 200 years ago

17) **The "bog" is:**
- ○ A string instrument similar to a mandolin
- ○ The soft, muddy earth of Ireland
- ○ A traditional dance rhythm
- ○ A percussion instrument

Thank you for completing the survey.