

# **The Impact of *The Met: Live in HD* on Local Opera Attendance**

by

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## **ABSTRACT**

Live-streamed movie theatre broadcasts are a new phenomenon in opera. In 2006-2007, the Metropolitan Opera in New York began transmitting select live Met performances into cinemas across Canada, the U.S. and Europe. The program was entitled *The Met: Live in HD* and since its inception, has expanded in audience reach, content and mandate. Many local live opera companies speculate that *Live in HD* is a threat to their business.

This study identifies and assesses the impact of *The Met: Live in HD* on local opera attendance. A survey was conducted in a major North American city with a resident midsize professional opera company and a midsize amateur opera company. We surveyed HD-attendees at *Live in HD* performances as well as at amateur and professional live opera performances.

The study investigates whether *Live in HD* actually exposes new audiences to opera, how attendees compare HD and live opera, and whether viewers are more likely to see a live local production or simply more likely to view another broadcast. The results show that *Live in HD* does not at present cannibalize the local live opera audience, but it does establish an audience for itself. *Live in HD* is not viewed as an inferior product to live opera. There is evidence that the program is so successful that it builds a loyal following –audiences attend because they enjoy the experience, some decide to subscribe, others begin to prefer the format. *Live in HD* attendees are very likely to reattend HD but not necessarily live opera. There is no evidence that

*Live in HD* generates more live opera attendance or brings new audiences into local opera houses.

## **PREFACE**

This study was completed with approval from the UBC Behavioural Research Ethics Board under supervision from principal investigator Charles B. Weinberg. All research work was completed within the Ethics Certificate expiry date. The Ethics Certificate number is H10-02727.

## TABLE OF CONTENTS

ABSTRACT .....	ii
PREFACE .....	iv
TABLE OF CONTENTS .....	v
LIST OF TABLES .....	vi
LIST OF FIGURES .....	vii
ACKNOWLEDGMENTS .....	viii
INTRODUCTION .....	1
Introduction .....	1
Research Purpose .....	2
LITERATURE REVIEW .....	3
Opera goes to the Movies .....	3
Shugoll Research Report: "Metropolitan Opera <i>Live in HD</i> Survey" .....	7
HYPOTHESIS AND SPECIFIC AIMS .....	10
Hypothesis .....	10
Specific Aims .....	10
DATA COLLECTION AND METHODOLOGY .....	11
The Survey .....	11
Data Collection .....	12
At the movies .....	14
At the live companies .....	14
Data Analysis .....	15
Statistical Analysis .....	16
RESULTS .....	17
Validation, Editing and Data Consolidation .....	17
Research Questions .....	18
Who attends <i>Live in HD</i> ? .....	18
Is <i>Live in HD</i> a possible competitor for live opera? .....	22
Why do people attend <i>Live in HD</i> ? .....	28
What do people prefer: HD, live or both? .....	31
Is <i>Live in HD</i> a first step into live opera? .....	34
Does attendance to HD promote live opera attendance? .....	36
DISCUSSION .....	44
Success (and/or Failure) of the <i>Live in HD</i> Program .....	44
Possible Changes in Opera-Going Behavior .....	45
LIMITATIONS .....	48
FUTURE DIRECTIONS .....	50
BIBLIOGRAPHY .....	52
APPENDICES .....	55
Appendix A: Comments from <i>Live in HD</i> Survey .....	55
Appendix B: <i>Live in HD</i> Survey .....	56

## LIST OF TABLES

Table 1: Live in HD attendance among recent live professional and amateur operagoers .....	4
Table 2: Sampling locations for <i>Live in HD</i> survey .....	13
Table 3: Demographic profile of different sample locations for <i>Live in HD</i> survey....	17
Table 4: Subscription status (percent of cases).....	20
Table 5: Comparison demographics of opera audiences.....	22
Table 6: Perception comparison between HD/live for given decision-making criteria .....	23
Table 7: Evaluation criteria ratings for HD and live .....	25
Table 8: Preference by subscription status .....	33
Table 9: 0-1 live operagoers (N=21).....	36
Table 10: Likelihood of future attendance vs. preference.....	40
Table 11: Comparison future attendance mean scores.....	42

## LIST OF FIGURES

Figure 1: Past live attendance in aggregated sample and individual sample locations .....	19
Figure 2: Past HD attendance in aggregated sample and individual sample locations .....	19
Figure 3: Evaluation criteria rankings from 1 to 6 .....	24
Figure 4: Evaluation criteria ratings from HD and live .....	25
Figure 5: Select qualitative responses about price sensitivity .....	26
Figure 6: Ticket cost comparisons between HD and live.....	27
Figure 7: Most important reason to attend in aggregated sample .....	29
Figure 8: Most important reason in sampling locations .....	30
Figure 9: Most important reason to attend trended over past attendance .....	31
Figure 10: Preference for HD, live or both .....	32
Figure 11: Preference trended by HD/live attendance .....	34
Figure 12: HD/live future attendance and preference for 0-1 past live operagoers.	35
Figure 13: Likelihood of live/HD future attendance .....	37
Figure 14: Likelihood of live/HD future attendance: mean scores .....	38
Figure 15: Likelihood of HD/live future attendance with increased past live opera attendance.....	39
Figure 16: Preference and future attendance mean scores for frequent HD/live attendees and HD/professional live opera subscribers .....	41

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## **INTRODUCTION**

### **Introduction**

Live-streamed cinema broadcasts are a new phenomenon in opera. Beginning in late 2006, the Metropolitan Opera launched the audience-development initiative, *The Met: Live in HD*, and began transmitting select live opera performances into movie theatres in local communities and cities across Canada, the United States and Europe. From the beginning, the Met's broadcasts were hailed as the savior of a dying art form. *Live in HD* was bringing opera to the masses and creating a new buzz among established live opera audiences. Currently in its fifth season, *Live in HD* has appeared on over 1300 screens in 45 countries and sold over 5 million tickets worldwide.<sup>1</sup> The program has expanded in content, audience reach and mandate. First developed as an initiative to reach new audiences, the Met (by its own admission) has expanded its definition to include *existing* audiences.<sup>2</sup>

The appeal of *Live in HD* to renew an aging opera audience and its potential as a source of revenue has led other large opera companies, including Covent Garden, La Scala and San Francisco to develop their own cinema-based live broadcast initiatives.<sup>3</sup> Cinema broadcasting has also expanded into other performing arts genres. The National Theatre, the Bolshoi Ballet and the Los Angeles Symphony are now offering movie theatre programming.

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<sup>1</sup> The Metropolitan Opera, "FAQs Live in HD," The Metropolitan Opera, <http://www.metoperafamily.org> (accessed March 1, 2011).

<sup>2</sup> Ibid.

<sup>3</sup> For more information see Rebecca Winzenreid, "Big Screen Dreams: A New Stage for Opera," *Opera America Magazine* 2, no. 2 (Summer 2008): 40.

The impact of cinema broadcasts on local live attendance remains essentially unstudied. The popularity and financial sustainability of *Live in HD* suggests that the form will continue to be an alternative for audiences to see opera. Many local opera companies speculate that the Met's *Live in HD* is a threat to their business. They worry about competing with the convenience, quality, and price that the broadcasts offer. Opera companies are especially anxious of a substitution effect among their established patron-base. On the other hand, perhaps the broadcasts are building a new audience local live companies can tap into.

## **Research Purpose**

This study empirically identifies and assesses the impact of *The Met: Live in HD* on local opera attendance. The study takes place in a major North American city. We surveyed HD-attendees at both *Live in HD* and professional and amateur live opera performances. We investigated whether *Live in HD* actually exposes new audiences to opera and how attendees compare HD and live opera. The purpose was to assess the future attendance intension of those who attend *Live in HD*. The results of the study will help inform how local live opera companies must respond to technologies like *Live in HD* to maintain and build their own audiences.

## LITERATURE REVIEW

### Opera goes to the Movies

*Live in HD* has been a topic of fascination among mainstream media outlets, music critics and commentators. The Met's cinema broadcasts are often lauded for single-handedly bringing opera to a broader audience. *Newsweek* proclaimed the HD experiment as a bold attempt "to popularize opera and perhaps save it from obscurity".<sup>4</sup> *Variety* reported that "after years on the ropes, high art is battling back".<sup>5</sup> Much of the credit is given to the Metropolitan Opera's new General Manager, Peter Gelb, whose previous executive incarnation was at the helm of Sony Classical.

The ready acceptance of *Live in HD* by opera audiences is interesting in itself. Audiences have embraced the broadcasts so completely that the Metropolitan Opera has expanded the program to eleven operas per season, added multiple encore presentations and even introduced reserved seating and an option to subscribe.

*Live in HD* has not had difficulty in finding an audience among opera-lovers. Daniel Wakin of the *New York Times* commented that the broadcasts have "spawned almost a cult following, with sell-outs, group visits, opera buff chatter at intermission and picnic baskets".<sup>6</sup> In conjunction with this study, three separate surveys were conducted requesting feedback from local live opera audiences about their opera experience. These surveys were completed post-performance and were conducted

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<sup>4</sup> Andrew Moravscik, "Sopranos at the Cineplex," *Newsweek*, March 19, 2007.

<sup>5</sup> Elizabeth Guider and Ian Mohr. "Pop Goes the Opera," *Variety*, April 2-8, 2007, 5.

<sup>6</sup> Daniel J. Wakin, "Verdi With Popcorn, and Trepidation," *New York Times*, February 15, 2009.

in a large metropolitan area. They found that about 40% of respondents had previously attended *Live in HD* (see Table 1).

**Table 1:** Live in HD attendance among recent live professional and amateur operagoers

<i>Have you ever attended Live in HD? Est. Yearly Attendance</i>	Local Professional Company <sup>1</sup> 45,000	Local Amateur Company <sup>2</sup> 6700	Local Amateur Company <sup>3</sup> 6700
YES	36.80%	40.70%	42.50%
NO	63.20%	59.30%	57.50%
	N=106	N=81	N=40

<sup>1</sup> Survey of subscribers post-2009/10 Season

<sup>2</sup> Post-performance survey after first opera in 2010 Season

<sup>3</sup> Post-performance survey after second opera in 2010 Season

Why has HD found an audience so quickly? Part of the reason may lie in *Live in HD*'s format. Opera has a long lineage with other media including radio, television and film as described in Martha Citron's seminal work *Screen Opera*.<sup>7</sup> But arguably the broadcasts move beyond previous incarnations and offer a fresh adaptation of the live opera-going experience itself.<sup>8</sup>

*Live in HD* has the uncanny ability to provide a genuine operatic experience. The broadcasts are able to reference the norms of live opera while drawing upon conventions from established media formats: cinema and television. *Live in HD* is still opera, but cinematic in context and televised in execution.

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<sup>7</sup> For more information see Marcia Citron, *Opera on Screen* (New Haven: Yale University Press, 2000).

<sup>8</sup> For more information see James Steichen. "The Metropolitan Opera Goes Public: Peter Gelb and the Institutional Dramaturgy of The Met: Live in HD," *Music and the Moving Image* 2, no. 2 (Summer 2009): 24.

The movie theatre environment replicates the communal atmosphere of live opera but also normalizes the forced aspect of film. The norms of television are also present. Heyer compares *Live in HD* to live sportscasting.<sup>9</sup> The broadcasts draw upon techniques used in large-scale televised sports like NFL Football and NHL Hockey. Sportscasting conventions reveal themselves in the camerawork before and during the opera, interviews and documentaries during intermission, and the general production of the programming throughout. Broadcasts are edited “in-camera” from an editing console with multiple monitors simultaneously with the action on stage.

The interplay between established media formats (cinema and television) allow the broadcasts to appeal to known modes of communication while introducing a new voice to the mix: opera. The result may be that audiences, including established operagoers, accept *Live in HD* as a legitimate alternative to in-person live opera.

Abfalter and Mirski investigated whether *Live in HD* audience members experience a sense of telepresence with the actual live event in the opera house.<sup>10</sup> Telepresence refers to an immersion effect to the extent where a feeling of transference occurs from one's physical setting. The authors used simple contingency questions and a

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<sup>9</sup> Paul Heyer, "Live from the Met: Digital Broadcast Cinema, Medium Theory, and Opera for the Masses," *Canadian Journal of Communication* 33, no. 4 (December 2008): 591.

<sup>10</sup> For more information see Daniel Abfalter, and P. Mirski, "Cinema Live-Opera. Value Enhancement through Telepresence." International Conference on Arts and Cultural Management (AIMAC 2009), Dallas, TX, June 28, 2009.

qualitative tool (GABEK®-WinRelan®) to analyze interview responses from patrons during *Live in HD* and *La Scala* cinema broadcasts in Innsbruck, Austria. The surveys were conducted during intermission breaks and the sample consisted of two groups (N=24, N=36). A statistical comparison indicated non-significant differences between the groups so they were analyzed as one sample. According to Abfalter and Mirski, patrons experienced moments of submersion that is indicative of a live performance although telepresence was not consistently achieved. Ultimately, the study suggests that *Live in HD* references live opera – not replacing it but providing an alternative yet satisfying experience.

In a 2009 *New York Times* article, Peter Gelb is famously quoted saying, “Nothing makes up for being in the opera house itself, [...] but [*Live in HD*] is the next best thing”.<sup>11</sup> What is unknown is whether *Live in HD* “gives a taste” of live opera and leads to live opera-going behavior. Some have suggested any attendance windfall is the Met’s alone.<sup>12</sup> Nevertheless, commentators like Daniel Wakin (*New York Times*) and Adam Wasserman (*Opera News*) are hopeful that *Live in HD* democratizes opera and brings new audiences to the art form and then into local opera houses.<sup>13</sup> Instead, what may be true is that HD broadcasts are their own unique legitimate experience that may simply lead to more visits to the movie theatre not live opera.

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<sup>11</sup> Peter Gelb as cited in Daniel J. Wakin, “Verdi With Popcorn, and Trepidation,” *New York Times*, February 15, 2009.

<sup>12</sup> For more information see either James Steichen, *The Metropolitan Opera Goes Public*, 30, or Daniel J. Wakin, “Verdi With Popcorn,” *New York Times*.

<sup>13</sup> For more information see either Daniel J. Wakin, “The Multiplex as Opera House,” *New York Times*, September 7, 2006, or Adam Wasserman, “Changing Definitions,” *Opera News* 72, no. 6 (December 2007): 61.

Beyond commentary in consumer media, speculations on media format and preliminary conclusions on telepresence, little quantitative research has been done on the impact of *Live in HD*. Abfalter and Minski's survey did show that respondents viewed *Live in HD* as a compliment to staged opera. Attendees would recommend *Live in HD* to others, thought the broadcasts were worth the money, and considered the experience a success.<sup>14</sup> Abfalter and Minski also found several visitors would prefer the broadcasts to a second-rank opera performance in a regional theatre. Perhaps Peter Gelb was only referring to *Live in HD* being the "next best thing" to live performance at his first-rank Metropolitan Opera.

The most notable study (completed in July 2008) is the Shugoll Research Report "Metropolitan Opera *Live in HD Survey*" commissioned by *Opera America*, a leading trade organization. The Shugoll Report serves as the baseline for the research completed in this study.

### **Shugoll Research Report: "Metropolitan Opera *Live in HD Survey*"**

Shugoll Research surveyed audiences that attended select *Live in HD* transmissions in 32 cities across North America.<sup>15</sup> The surveys were conducted in collaboration with 34 participating local opera companies. The stated aims of the survey were to:

- Profile the HD audience

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<sup>14</sup> Abfalter and Mirski, "Cinema Live-Opera," (2009): 11.

<sup>15</sup> For more information see Shugoll Research. "The Metropolitan Opera Live in HD survey." Shugoll Research Corporation, July 2008, [http://www.shugollresearch.com/images/documents/opera\\_report.pdf](http://www.shugollresearch.com/images/documents/opera_report.pdf) (accessed March 1, 2011).

- Determine the preferred form of opera: live or HD
- Identify reasons for attending the HD transmissions
- Assess reactions to HD transmissions
- Identify the attendance decision process

Surveys were distributed by opera company volunteers at screenings of *La Bohème* and *Peter Grimes* in March and April 2008 respectively. Each company was given a total of 263 surveys based on an estimated response rate of 38 percent. Shugoll determined a total of 100 surveys per company would be adequate to draw some broad conclusions. The total received was 5,306. Assuming all 8,942 surveys were handed out, the actual response rate was 59 percent.

The Shugoll Report found *Live in HD* attracted people who had not seen opera recently (about 18% of respondents) but most were moderate and frequent live operagoers. A net total of five percent of HD-attendees had never seen live opera. When compared to their earlier research, *Live in HD* did not diversify the basic demographic profile of the opera-going audience (mostly white, older, and highly educated). Only a small segment was under 25 years old. However, the median household income was lower for HD than for live opera with 45% of respondents earning less than \$75,000 a year.

In terms of future attendance and preference, the majority of the audience were “very likely” to reattend both HD (90%) and live (75%). A smaller portion of non-recent live opera attendees (30%) was “very likely” to attend live opera in the

future. Most respondents preferred to attend both (58%), while a minority preferred HD exclusively (15%) or live (27%).

The Shugoll Report concluded that *Live in HD* had certainly found an audience that enjoys attending the broadcasts. Respondents were very likely to reattend HD and not necessarily deterred from live opera. Most respondents said they were very likely to attend live opera in the future (75%). The survey did not show that *Live in HD* promoted live opera attendance.

Although the Shugoll Report provides a point of comparison for this study, the survey was conducted in the infancy of *Live in HD*. Since that time HD's market presence has increased and the program has expanded in content and audience reach. Currently in its fifth season, *Live in HD* has built-up an audience (some of whom subscribe) with a record of past HD attendance and perhaps changing preferences.

Most importantly, the Shugoll Report does not adequately examine *Live in HD* in the context of local live opera. The survey does not consider how HD-audiences perceive live local opera, how they evaluate it and how they compare their HD and live experiences. The survey also does not show if opera-going audiences attend HD and live for the same reasons, nor does the survey show if the attendance decision-process is different or the same.

## **HYPOTHESIS AND SPECIFIC AIMS**

### **Hypothesis**

Rather than simply updating the existing literature, this study focuses on empirically identifying and assessing the effect of *Live in HD* on local live attendance. The purpose is to investigate the future attendance intention and preference of those that attend opera in the movie theatres. *The working hypothesis for this study was that the overall effect of "The Met: Live in HD" generates more interest and therefore more attendance for local live opera.* *Live in HD* lowers the barrier of entry among people that are not regular operagoers, including younger audiences. Among existing local operagoers, *Live in HD* gives exposure to a greater variety of works not otherwise available in the local market. The program does not replicate live opera, but rather provides a positive experience that may lead both new and established operagoers to try or retry “the real thing” at their local opera company.

### **Specific Aims**

The research questions are:

Who attends *Live in HD*?

Is *Live in HD* a possible competitor for live opera?

Why do people attend *Live in HD*?

What do people prefer: HD, live, or both?

Is *Live in HD* a first step into live opera?

Does attendance to HD promote live opera attendance?

## **DATA COLLECTION AND METHODOLOGY**

The study was conducted in a major North American city with the cooperation of its midsize professional opera company (approx. \$4 million annual operating budget) and midsize amateur opera company (approx. \$250,000 annual operating budget).

The city also served as sampling location for the original Shugoll Report.

In the 2010-2011 season, the professional opera company presented four operas with 4-6 performances each. The amateur opera company presented three operas with 4 performances each. Approximate live attendance (at full capacity) is 45,000 and 6700 people respectively. For the 2010-2011 Season, *Live in HD* presented 12 operas with 2-3 broadcasts each for a total of 31 performances (including live simulcast and encore presentations). *Live in HD* was transmitted into six movie theatres in the metropolitan area. Approximate capacity HD attendance (at full capacity) is 59,400 for all metropolitan *Live in HD* venues.

### **The Survey**

To obtain information about the possible local impact of *Live in HD*, a self-administered survey of HD-attendees was carried out. In keeping with the existing Shugoll literature, a similar methodology was employed. Some of the Shugoll findings serve as benchmarks for our results. Additional independent variables like subscription status and past HD attendance, and dependent variables like opera-type preference and evaluation criteria, were added.

The key difference with this survey (compared to the Shugoll Report) was that respondents were asked more detailed questions about both their HD and live opera experiences. The construction of the survey used a within-subjects design approach. We wanted to measure the value of specific dependent variables for both HD and for live for the same subjects. This enabled the direct comparison of responses within the same study.

The survey was constructed using an online platform called *SurveyMonkey*. The survey was electronically distributed via email invitation or through a custom-built website. This method had the advantages of low cost, easy distribution and greater flexibility in survey design. Online distribution also did not impact patron experience during performance. Surveys were self-administered and completed post-performance by participants.

## **Data Collection**

To examine the hypothesis and research questions, audience surveys were conducted at select performances of *Live in HD* at a major movie theatre in the downtown metropolitan area less than 1 kilometer away from the live professional opera venue. In order to reach a broader HD-going audience, the same survey was conducted at select professional and amateur opera performances (*Lucia di Lammermoor* and *Don Giovanni*) during the same period as the HD broadcasts. The types of operas presented ranged from very popular works (*Don Giovanni*) to lesser-known works (*Boris Godunov*). In the Shugoll Report, the authors found differences

in responses at *Peter Grimes* (a lesser-known opera) and *La Bohème* (a well-known work). We wanted to sample HD-attendees at a wide range of works to avoid this problem. Our goal was to provide a representative and sufficiently random sample of the local opera-going audience that has attended *Live in HD*.

An aggregate of 187 surveys were collected at the three different sampling locations. Data collection took place over the course of 51 days (November 4-December 25). Since the survey was self-administered online, the survey collection period closed after the actual events. The method of survey distribution was dependent on the sampling location (see Table 2).

**Table 2:** Sampling locations for *Live in HD* survey

Presenter	Opera Performance	Type of Performance at sampling location	Date (2010)	Distribution Method	N	Response Rate
Live in HD, downtown movie theatre	<i>Boris Godunov, Das Rheingold, Don Pasquale, Don Carlo</i>	HD	Nov 13, Nov 20, Nov 27, Nov 29, Dec 4, Dec 11	Advertisement Card, Self-Administered online	80	9%
Amateur opera company, live theatre	<i>Don Giovanni</i>	Live	Nov 4-7	Advertisement Card, Self-Administered Online	55	3%
Professional opera company	<i>Lucia di Lammermoor</i>	Live	Dec 4-11	Email Invitation, Self-Administered Online	31	6%

## **At the movies**

Movie theatre HD-attendees were handed an advertisement card that directed them to voluntarily give feedback on an online survey. The card directed the participant to a custom-built website. Volunteers gave out the cards with promotional material for the local professional opera company. The cards were distributed pre-performance.

The sampling period spanned six *Live in HD* broadcasts over the course of 28 days. An estimated 300 or 600 people attended each broadcast (the live simulcasts were transmitted into two theatres). Estimated total attendance was 2000 attendees and 900 advertisement cards were made available for distribution. A total of 80 surveys were collected. Assuming all the cards were handed out, the response rate was 9 percent.

## **At the live companies**

Audience members at the amateur opera performances were prompted to participate with an advertisement placed in the concert program. Advertisement cards were not distributed but were available in the theatre lobby. Similar to the movie-theatre attendees, respondents participated through the custom-built website. Estimated total attendance at the amateur performances was 1,913 (based on point-of-sale data). A total of 55 surveys were collected yielding an estimated response rate of 3 percent.

Audience members at the professional performances were prompted to participate through an email invitation to the online survey. The invitation was sent to 500 randomly selected professional opera subscribers. A total of 31 surveys were collected yielding an estimated response rate of 6 percent.

## **Data Analysis**

The study design and results are primarily descriptive in nature. The survey used a variety of question types including nominal multiple-choice (to measure frequencies), and ordinal and interval scale questions (to measure ranking and ratings). Qualitative responses were limited to a single open-ended question to give comments about the value difference between live and HD formats. Open-ended comments were not coded and left as qualitative responses. Selected comments are available in Appendix A. Appropriate significance tests were used to validate quantitative findings. Please see Appendix B for a copy of the survey.

The results of the survey were analyzed using the following process:

- Validation of collected data
- Editing and clean up of the collected data set including data consolidation
- Tabulation of results including one-way frequency and cross-tabulation of significant findings
- Descriptive statistics including mean and dispersion
- Statistical tests and tests for variance to validate mean differences

## **Statistical Analysis**

We used a variety of scale types to measure selected dependent variables. Likert and rating scales are assumed to have equal intervals. All values reported are mean  $\pm$  standard deviation. For hypothesis testing, 95% confidence intervals were calculated and significance was assumed at the 0.05 level.

Paired sample student t-tests were used to compare future attendance rates, evaluation and perception scores (means) within the sample. Independent sample t-tests were employed to compare means for the same variable (for example, likelihood of future attendance to live opera) across chosen sample segments. To assess equality of variance within the segments and within the population, a basic Levene's test was used. We assumed the sample segments were independent. To compare means for more than two segments we used a basic one-way ANOVA procedure. We did not make corrections for multiple comparisons. In cross-tabulations, the Pearson Chi-Square test was used to measure associations between variables.

## RESULTS

### Validation, Editing and Data Consolidation

Participation in the study required explicit consent and previous attendance to at least one *Live in HD* broadcast. Since data collection was self-administered, the survey had two initial screening questions to ensure consent and previous HD attendance. In total 21 responses were removed from the survey.

In order to obtain a broad sample of people that have attended *Live in HD*, we sampled at both HD and live venues. The demographic profile was similar between sample locations (see Table 3). However, we knew that participants from the movie theatre might answer differently than those from the live venues. This turned out to be the case. Key differences between sample locations are noted in the individual results sections.

**Table 3:** Demographic profile of different sample locations for *Live in HD* survey

	<i>Movie Theatre</i> HD Survey <b>N=79</b>	<i>Live Opera Venues</i> HD Survey <b>N=79</b>
<b>Gender</b>		
Female	70%	53%
Male	30%	47%
<b>Age</b>	<b>N=77</b>	<b>N=79</b>
<50	13%	19%
50-59	18%	18%
60 or more	69%	63%
<b>Education</b>	<b>N=79</b>	<b>N=81</b>
<High School	0%	1%
High School Graduate	1%	1%
College	14%	17%
College Graduate	17%	18%
Prof./Grad. Degree	68%	63%
<b>Annual Household Income</b>	<b>N=56</b>	<b>N=58</b>
<24999	11%	7%

	<i>Movie Theatre</i> HD Survey	<i>Live Opera Venues</i> HD Survey
25000-49999	21%	12%
50000-74999	29%	28%
75000-99999	7%	19%
100000+	32%	34%

**Note:** N-values indicate response rate to demographic questions in survey

The survey data was edited to ensure the online questionnaire was completed properly, coded for statistical analysis, and consolidated into a single database. The results below are organized into six sections aligned with the research questions.

## Research Questions

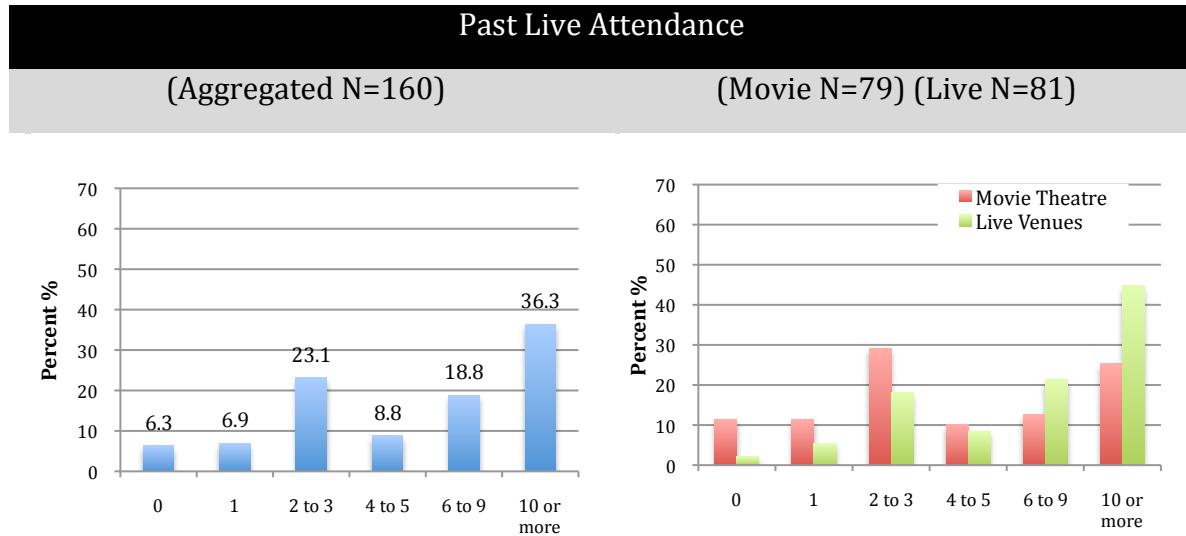
### Who attends *Live in HD*?

The majority of people who attend *Live in HD* are established live operagoers, including local live opera subscribers. For only a small percentage of respondents (6.3%) is HD their only form of opera attendance in the past 3 seasons. A large majority of participants have attended live opera in the past in the local area (93.2%), and most have attended at least one opera in the past 3 seasons (93.8%).

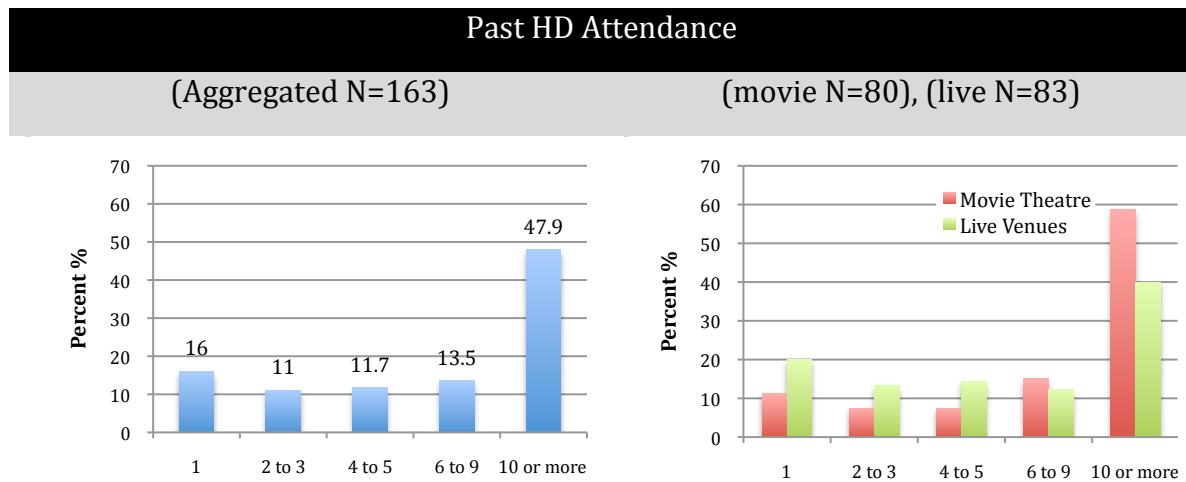
In terms of past HD attendance, a large portion of participants has attended *Live in HD* very frequently (47.8%) (see Figure 2). A large portion of frequent live operagoers are also frequent HD goers (61.4%). In general, greater live attendance is marginally associated with greater HD attendance using a Pearson Chi-Square measure of association ( $p=0.059$ ). Participants that attend a lot of each form (10 or more) tend to be subscribers. Some participants are subscribers to both HD and live

professional opera (12%). Only 10.8 percent of “10 or more” live attendees are non-subscribers, and 31.0 percent of “10 or more” HD attendees are non-subscribers.

**Figure 1:** Past live attendance in aggregated sample and individual sample locations



**Figure 2:** Past HD attendance in aggregated sample and individual sample locations



Past attendance and subscription is marginally dependent on the sampling location

There are more frequent past live attendees/subscribers at the live sample locations

and similarly for HD (see Figure 1, 2 and Table 4). Three subscriber groups stand out: local professional live opera, HD, and none. Subscription status is not mutually exclusive. Some participants are subscribers to both *Live in HD* and the professional opera company (12%). The sample arguably contains a disproportionate number of live professional opera subscribers because only subscribers were available to be surveyed at the professional venue.

**Table 4:** Subscription status (percent of cases)

	N	Local Professional	Live in HD	None
Samples	Aggregated	156	35.30%	30.10%
	Movie Theatre	76	25.00%	43.40%
	Live Venues	80	45.00%	17.50%

*Subscription Status is not mutually exclusive*

In order to examine the demographic profile of the current *Live in HD* audience, we compared our results with the Shugoll Report and the preliminary feedback survey conducted at the amateur opera performances (see Table 5). The three different surveys have varying sample sizes.

First, we compared our results with the Shugoll Report to see if our sample is representative of the HD-going audience. We also wanted to see if there were any demographic changes over time. The two surveys show a similar demographic profile for gender, age, and education.

Second, we compared our results with the preliminary feedback survey to see if there were any demographic differences with the local live opera audience. These

results are also consistent in gender, age and education. The Shugoll Report indicated that the demographic profile of the *Live in HD* audience in their survey was similar -except for income- to live opera according to their previous research.

From these results, we can conclude that 1) our methods produced a representative sample of the HD-going population despite the small sample size, 2) the demographic profile for *Live in HD* has not changed since the Shugoll Report and 3) the demographic profile is similar to live opera.

In the Shugoll Report, the authors found a lower household income distribution when compared to live opera surveys (45% of respondents had annual household income less than \$75,000). They concluded this might be because of the diversity of markets in their study that included smaller markets. For our *Live in HD* survey, 54 percent of respondents indicated an annual household income of less than \$75000. Interestingly, the amateur live opera survey further skewed results towards lower household incomes (59%). The similar results found between the *HD* surveys and with live amateur opera may indicate that in our local market the median household income for operagoers is lower. Alternatively, it may indicate that *Live in HD* and amateur live opera attracts a more price-conscious audience. The majority of respondents who attend HD and live opera are older (60 years or older) who may be retired and without a large annual disposal income.

**Table 5:** Comparison demographics of opera audiences

	<i>Live in HD</i> Survey <b>N=158</b>	Shugoll Report Survey <b>N=5210</b>	Amateur Live Opera Survey <sup>1</sup> <b>N=118</b>
<b>Gender</b>			
Female	61%	66%	60%
Male	39%	34%	40%
<b>Age<sup>2</sup></b>	<b>N=156</b>	<b>N=5227</b>	<b>N=118</b>
<50	16%	16%	28%
50-59	18%	24%	21%
60 or more	66%	60%	51%
<b>Education</b>	<b>N=160</b>	<b>N=5187</b>	<b>N=118</b>
<High School	0%	1%	1%
High School Graduate	1%	4%	4%
College	16%	12%	11%
College Graduate	17%	25%	30%
Prof./Grad. Degree	66%	58%	54%
<b>Annual Household Income</b>	<b>N=114</b>	<b>N=4298</b>	<b>N=80</b>
<24999	9%	6%	19%
25000-49999	17%	18%	16%
50000-74999	28%	21%	24%
75000-99999	13%	17%	16%
100000+	33%	38%	25%

**Note:** N-values indicate response rate to demographic questions in survey

<sup>1</sup> Post Performance Surveys for 2010-11 Season for local Amateur Company

<sup>2</sup> Shugoll Report Age Demographic Categories are <55, 55-64, 65+ respectively

### **Is *Live in HD* a possible competitor for live opera?**

*Live in HD* may be a competitor for live opera audiences if respondents perceive that both formats are in the same product category and both fulfill the same opera going needs.

To evaluate differences in perception between HD and live we asked respondents to rate the importance of eight different criteria in their decision to attend. Table 6 shows that ratings for the decision-making criteria. Mean scores are calculated on a 5-point Likert Scale from 1 (not at all important) to 5 (extremely important). T-tests are used to compare means for paired HD and live ratings.

In general, respondents rate the decision criteria similarly in importance. There are some differences. Respondents rate “support opera performance” as more important in their live opera attendance than HD (although HD does rate surprisingly high). “Theatre comfort” and “convenience” in contrast are also more important determinants in the decision to attend HD than live.

**Table 6:** Perception comparison between HD/live for given decision-making criteria

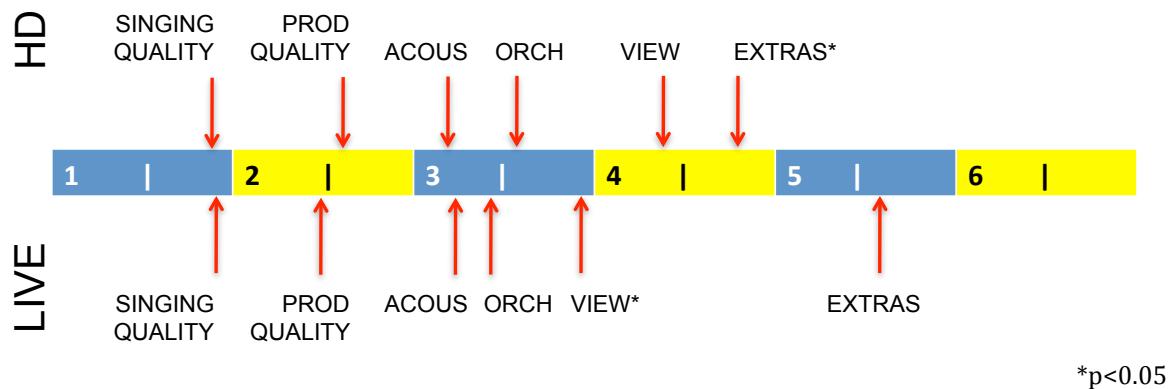
		Mean Scores	Standard Deviation
I love opera and want to see as much as possible (N=147)	HD	4.3333*	0.97456
	LIVE	4.1905	1.049
Price of ticket (N=145)	HD	3.6966	1.243
	LIVE	3.6207	1.161
I want to support opera performance (N=140)	HD	3.5143*	1.243
	LIVE	3.7429	1.153
Physical comfort of theatre (N=145)	HD	3.4897*	1.161
	LIVE	3.1793	1.045
Convenient location of theatre (N=146)	HD	3.684*	1.113
	LIVE	3.1986	1.093
Ease of Parking (N=142)	HD	2.4648	1.452
	LIVE	2.4718	1.303
I want to see a particular star (N=142)	HD	3.338	1.172
	LIVE	3.3028	1.172
Time of performance (N=142)	HD	2.9296	1.195
	LIVE	3.000	1.155

\*p<0.05

5-point LIKERT SCALE

1 =“not at all important” and 5 =“extremely important”

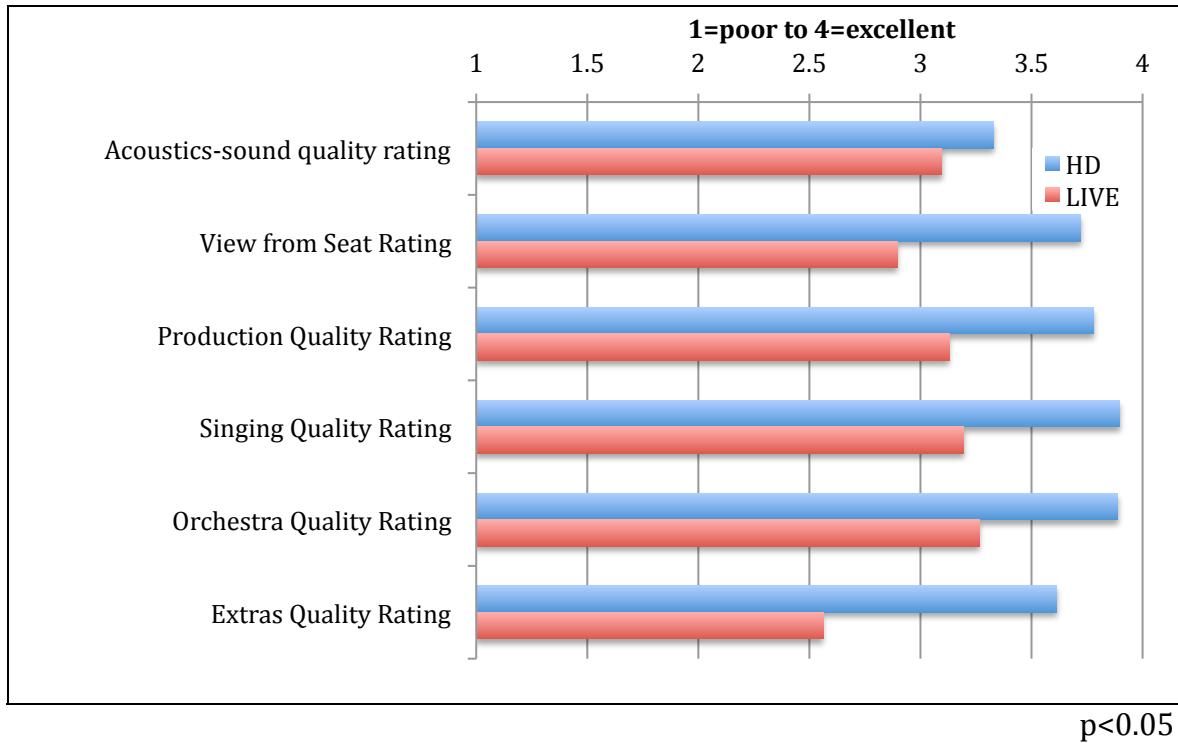
**Figure 3:** Evaluation criteria rankings from 1 to 6



We also asked respondents to rank given evaluation criteria. Evaluation criteria are singing, production, sound, orchestra quality, view from seat and extras. “Extras” refer to value-added content such as pre-performance interviews. Participants rank the evaluation criteria for HD and live in same order (see Figure 3). Rankings produce means  $\pm$  standard deviation on an equal interval scale. T-tests are used to compare means for paired HD and live evaluation criteria rankings. Although “view from seat” and “extras” are ranked in the same order, their mean differences are statistically significant. These results suggest that the forms are in the same product category and both HD and live opera fulfill the same needs for operagoers.

Given that operagoers perceive both HD and live in same product category, we asked respondents to rate the delivery of HD and live on the evaluation criteria from poor to excellent. HD is rated consistently higher in evaluation criteria compared to live across the aggregate sample (see Figure 4). These results are all statistically significant (Table 7).

**Figure 4:** Evaluation criteria ratings from HD and live



**Table 7:** Evaluation criteria ratings for HD and live

	Live in HD	Standard Deviation	LIVE	Standard Deviation	N
Acoustics-sound quality rating	3.331*	0.72701	3.0966	0.65959	145
View from Seat Rating	3.7203*	0.49513	2.8951	0.81977	143
Production Quality Rating	3.7808*	0.51853	3.1301	0.61323	146
Singing Quality Rating	3.8966*	0.34809	3.1931	0.61573	145
Orchestra Quality Rating	3.8889*	0.41157	3.2639	0.61435	144
Extras Quality Rating	3.614*	0.617	2.5614	0.80962	114

\*p<0.05

We also asked participants to rate the ticket cost of both HD and live opera. *Live in HD*'s ticket cost is rated more reasonable across the aggregate sample, even with live opera subscribers (see Figure 6). Ticket-cost scores are means ( $\pm$  standard

deviation) that are measured on an equal interval scale from 1 to 4 (not at all reasonable to very reasonable). The resultant means provide a measure of reasonability.

Although we did not formally analyze qualitative comments, many respondents expressed price-sensitivity to the cost of live professional opera (see Figure 5). This suggests that ticket cost may a barrier-of-entry to live opera. It should be noted that price sensitivity exists even if respondents prefer to attend both HD and live opera.

**Figure 5:** Select qualitative responses about price sensitivity

*I appreciate the costs involved in live opera but find the cost prohibitive for the type of seat I would want at a live performance. (Female, Age: 60+)*

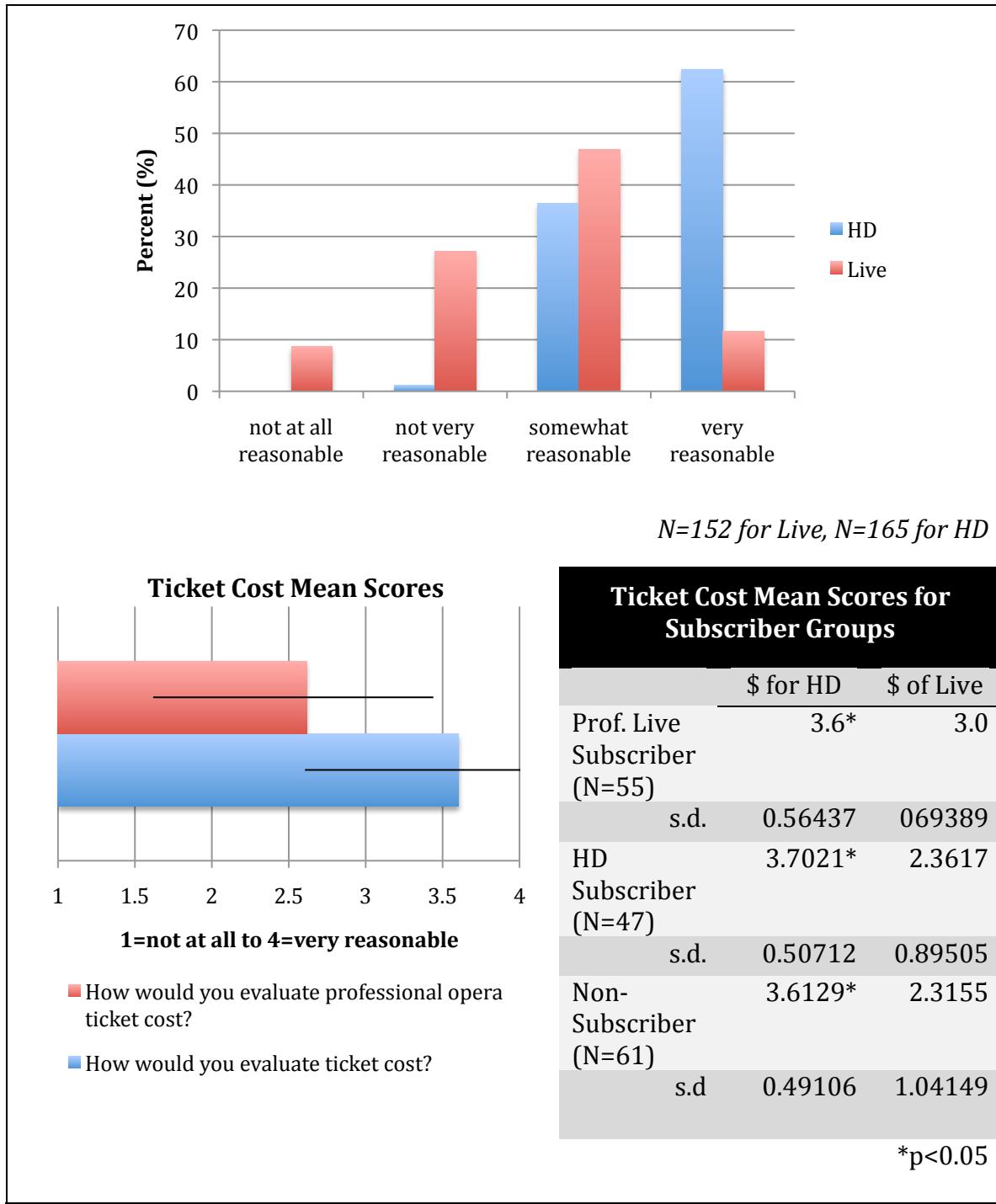
*Price and limited runs (conflicting schedules) prevent me from accessing live local opera, so Live in HD gives me access to seeing opera performances I can't otherwise afford. (Female, Age: 30-39)*

*[T]icket price for good seats is what holds me back from going to more live performances. (Female, Age: 60+)*

*I am retired and tickets for live opera are too expensive for me, particularly to see an opera I know very well. (Female, Age: 60+)*

*I still love live opera, but can't afford excellent seats. (Female Age: 60+)*

**Figure 6:** Ticket cost comparisons between HD and live



These results indicate that operagoers probably compare *Live in HD* and live opera.

Operagoers place both forms in their consideration set when deciding to attend

opera. HD is not perceived as an inferior product to live opera. *Live in HD* is rated consistently higher than live opera in quality measures and ticket cost is rated much more reasonable.

### **Why do people attend *Live in HD*?**

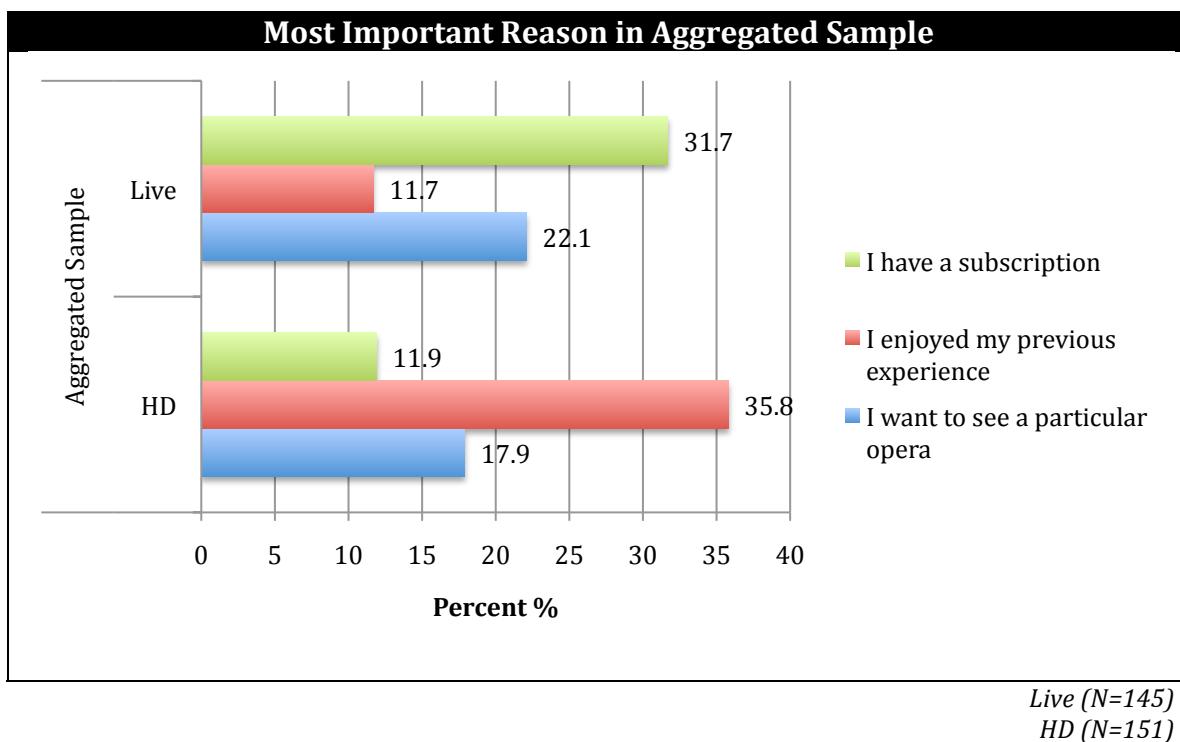
We asked respondents to choose the one most important reason why they attend HD and live opera. We found they attend HD and live for different reasons. Three reasons stand out and were selected by most respondents: "I had a positive previous experience", "I want to see particular opera", or "I have a subscription" (see Figure 7 and 8). For live opera, the most important reason for attendance is "subscription" (31%) or "particular opera" (22%). For HD, the reason is "previous experience" (36%).

The Shugoll Report found that the most important reason for attending an HD transmission was to see a particular opera (73%). In our study, only 18 percent of respondents chose that reason. This represents a fundamental shift in the market position of *Live in HD*. The change in operagoers attend HD not only implies product maturity but that the form has established its own following.

Our aggregated sample is made up of many professional live opera and HD subscribers. For live opera, subscription status affects the primary attendance reason. "I have a subscription" is primarily selected by live opera subscribers (93% of the total) versus "particular opera" (56% of the total) by non-subscribers. Additionally most live professional opera subscribers choose "subscription" (76%).

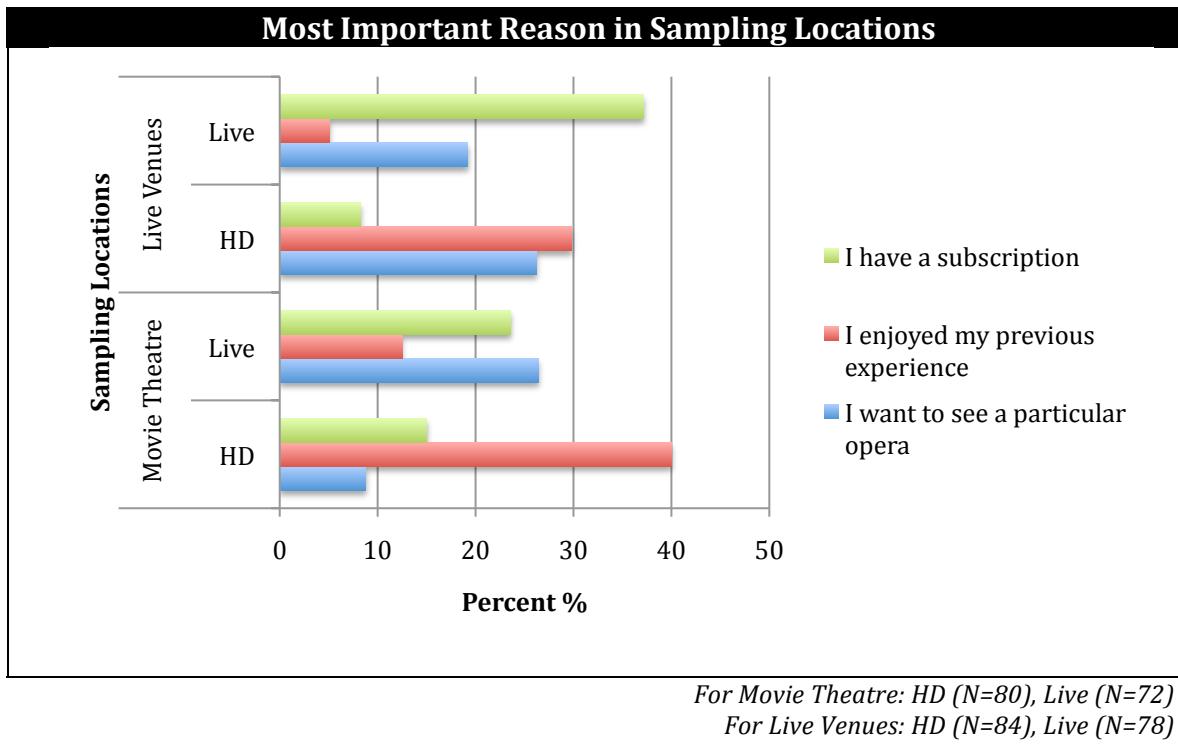
Interestingly, the subscription effect is dampened for HD – “previous experience” is still the leading choice for HD attendance regardless of subscription status. The majority of professional live opera subscribers (44%) choose “previous experience” as well as HD subscribers (42%) and non-subscribers (27%).

**Figure 7:** Most important reason to attend in aggregated sample



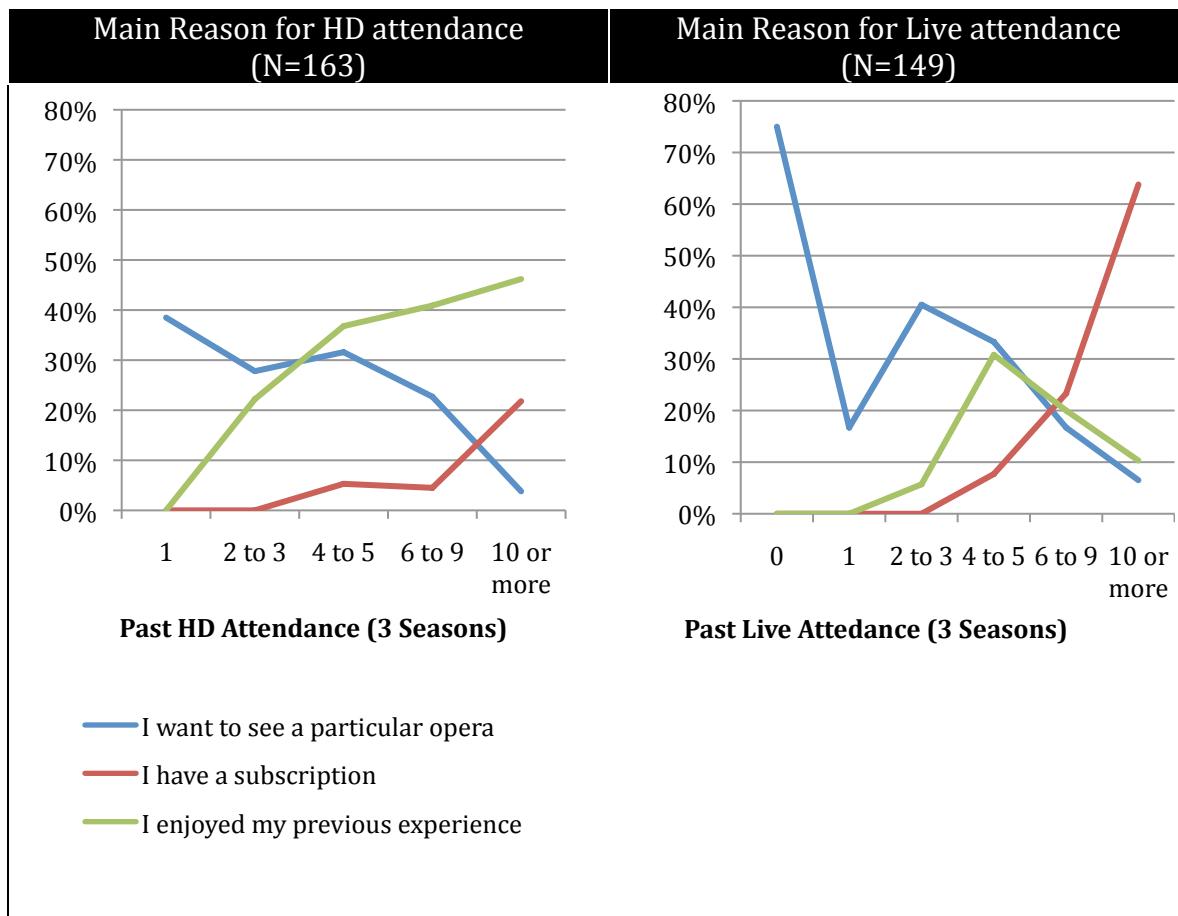
The sampling locations (either at the movie theatre or live venues) did affect a respondent's choice (see Figure 8). In the movie theatre sample, the subscription effect is dampened and “particular opera” becomes more prevalent for live opera.

**Figure 8:** Most important reason in sampling locations



When the three most important reasons are trended over the past attendance of each form respectively, *Live in HD* displays decision patterns consistent with a healthy growing arts organization (see Figure 9). As attendance increases “particular opera” becomes less important, and “previous experience” more important. “Subscriptions” exhibit a slow build in intent. In contrast, the trends in the live opera decision-pattern with increased live attendance are more erratic. This may be due to the fact that live opera is already an established and mature product.

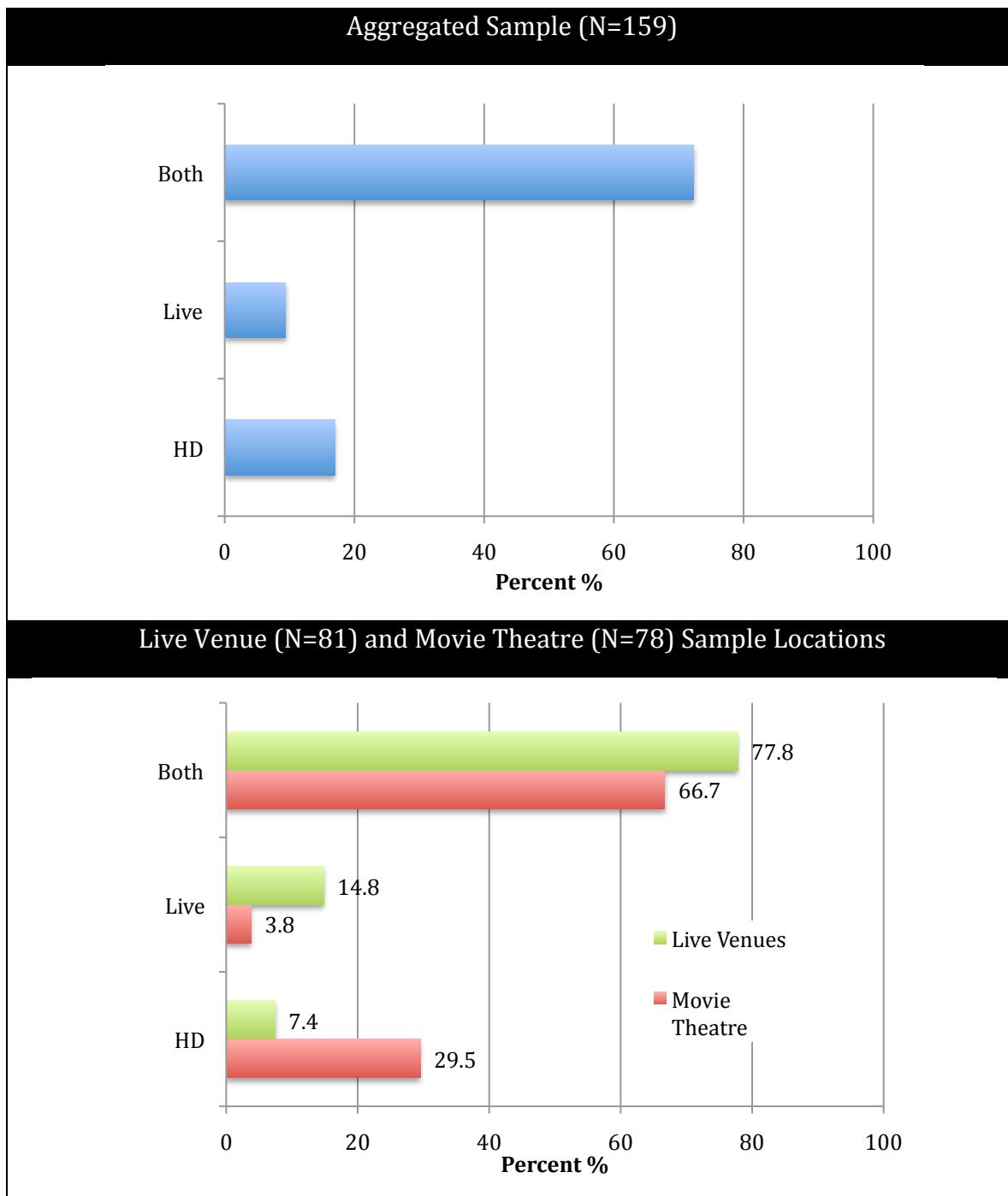
**Figure 9:** Most important reason to attend trended over past attendance



### What do people prefer: HD, live or both?

Overwhelmingly the majority of participants (72.3%) prefer “both” HD and live opera (see Figure 10). This result is consistent across the aggregate population suggesting that both HD and live opera fulfill the opera-going needs of attendees, and consumers will be happy to attend either. A minority of participants have a preference for either “live” (9.4%) or “HD” (18.2%). If a unique preference is expressed, nearly twice as many people prefer HD to live. This is in contrast to the Shugoll Report that asked HD-attendees for their preferred form.

**Figure 10:** Preference for HD, live or both



Sampling location has an impact on preference (see Figure 10). When examining the sample taken at the movie theatre, the preference for HD increases (29.5%) while preferences for “both” decreases marginally and “live” decreases drastically (3.8%).

At the live sampling locations, the preference for live increases compared to the aggregate measurement, HD decreases, but the dominant preference for “both” remains (77.8%). These findings may be the result of systemic differences in the samples or simply that patrons respond more positively to their most recent (whether it be HD or live) opera experience.

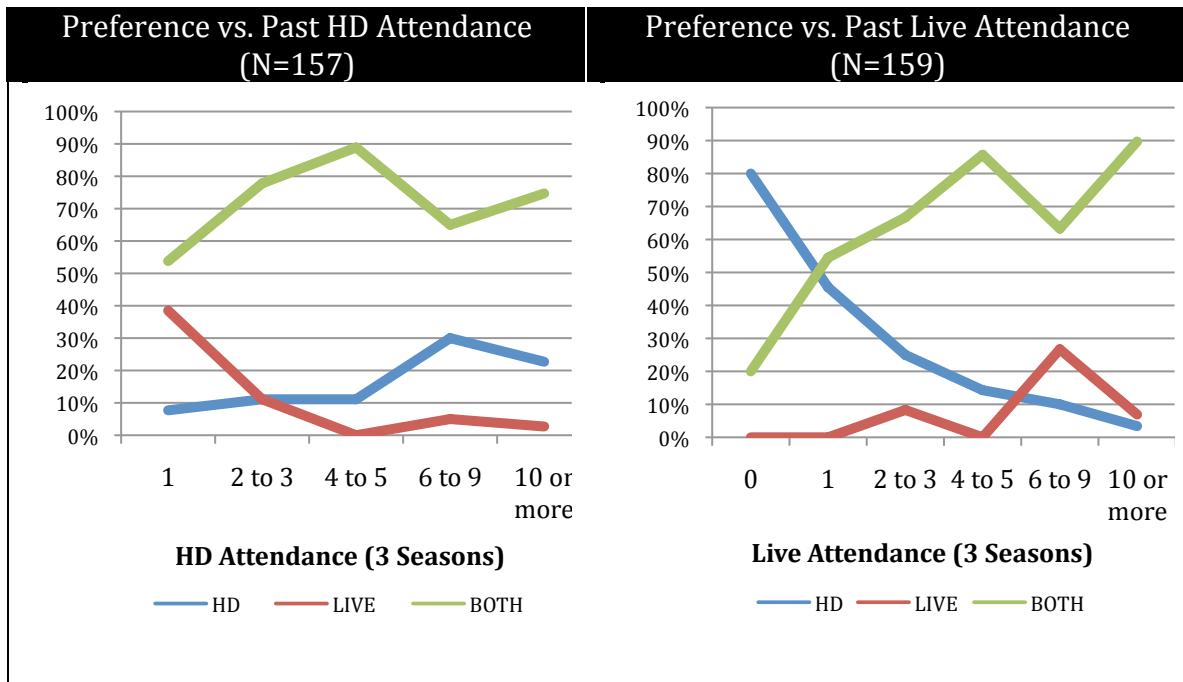
Preference is affected by subscription status (see Table 8). If subscribers choose a unique preference (either one or the other), HD subscribers prefer “HD” *much* more than live subscribers prefer “live”. The majority of non-subscribers have a strong preference for “both” with the remaining minority of respondents preferring HD to live opera.

**Table 8:** Preference by subscription status

	Professional Live Subscriber (N=55)	HD Subscriber (N=47)	Non-Subscriber (N=61)
<b>What form to do you prefer?</b>	HD	1.8%	34%
	Live	14.5%	4.3%
	Both	83.6%	61.7%
			73.8%

Preference is also affected by past attendance (see Figure 9). More than half of very frequent (10 or more) live operagoers are also very frequent HD goers (61.4%). This segment strongly prefers to attend “both” (90.9%). However in the aggregated data, as past live attendance increases it trends towards a strong preference for “both”, and as past HD attendance increases it trends towards a strong preference for “both” but also a weak preference for “HD”.

**Figure 11:** Preference trended by HD/live attendance



It should be noted that we examined only the HD-going population in this study. All respondents had to have attended at least one *Live in HD* transmission. In the larger opera-going population there are operagoers that do not attend *Live in HD* and may have a strong preference for live. However in the HD-going population, our findings suggest that those HD-attendees that are also frequent live opera attendees or live subscribers have a strong preference for “both” forms, while frequent HD attendees or HD subscribers are not so clear cut, either preferring “both” or “HD”. Overall, the findings suggest there is a group that go to *Live in HD* that only prefer HD.

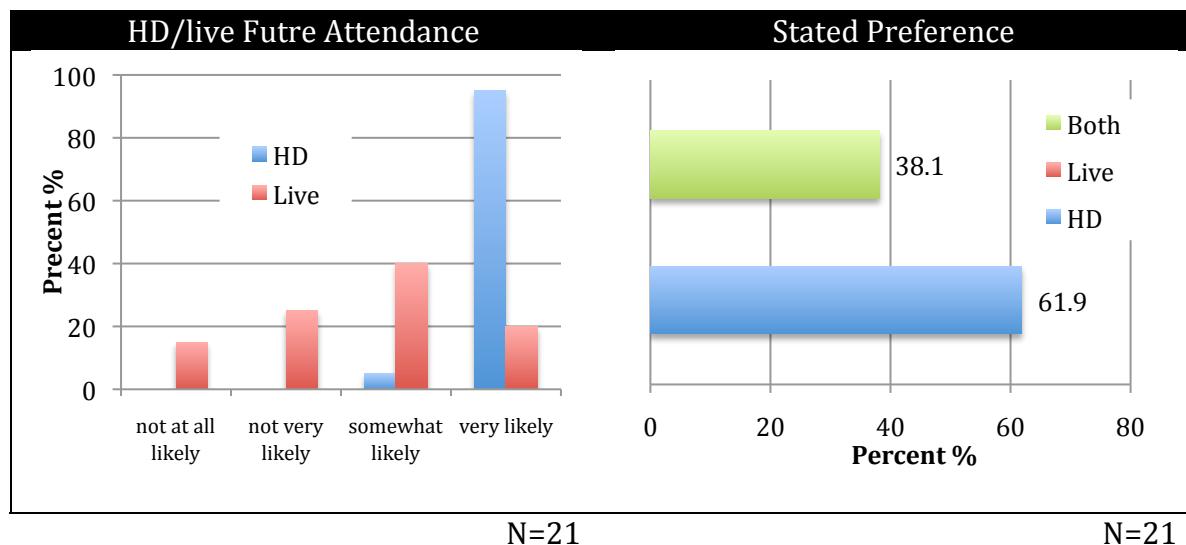
### **Is *Live in HD* a first step into live opera?**

*Live in HD* is not a first step into live opera. The majority of those attending HD have attended more than one live opera in the past 3 seasons (86.9%). For the movie

theatre group, only 11.4 percent of participants had not attended live opera in the last 3 seasons. This is contrast to the Shugoll Report that found that *Live in HD* attracted a greater portion of recent live opera non-attendees (18%).

The small portion (13.1%) of participants that have only attended very few live operas (0 or 1) in the past 3 seasons are very likely to reattend HD and much less likely to reattend live (see Figure 12 and Table 9). We treated the response to our scale from 1 (not all likely) to 4 (very likely) as if they were interval data to generate mean ± standard deviation future attendance scores. All results are statistically significant ( $p<0.05$ ).

**Figure 12:** HD/live future attendance and preference for 0-1 past live operagoers



These participants also have a high preference for HD (more than “both”) and no unique preference for live (see Figure 12). Table 9 shows that past HD attendance of 0-1 live operagoers ranges from 1 to 10 or more, the greatest portion in the latter category (62%). This segment consists primarily of HD subscribers, and non-

subscribers. Both non-subscribers and HD-subscriber prefer HD exclusively (not both).

These results suggest that *Live in HD* does not promote live attendance for low frequency live attendees but does entice further HD attendance.

**Table 9:** 0-1 live operagoers (N=21)

Likelihood to Reattend Scores (N=21)					
Future attendance Score	HD	Standard Dev.	Live	Standard Dev.	
	3.95*	0.2188	2.52	1.12	*p<0.05
Past HD Attendance (N=21)					
Past HD attendance (%)	1	2-3	4-5	6-9	10 or more
	9.5%	9.5%	4.8%	14.3%	61.9%
Preference vs. Subscription Status (N=21)					
What do you prefer? (%)	HD Both	HD subscriber (N=12)	Non-subscriber (N=8)	Subscriber to other (N=2)	
		67% 33%	63% 37%	50% 50%	

% within Subscription Groups  
Subscription Groups are not Mutual Exclusive

### Does attendance to HD promote live opera attendance?

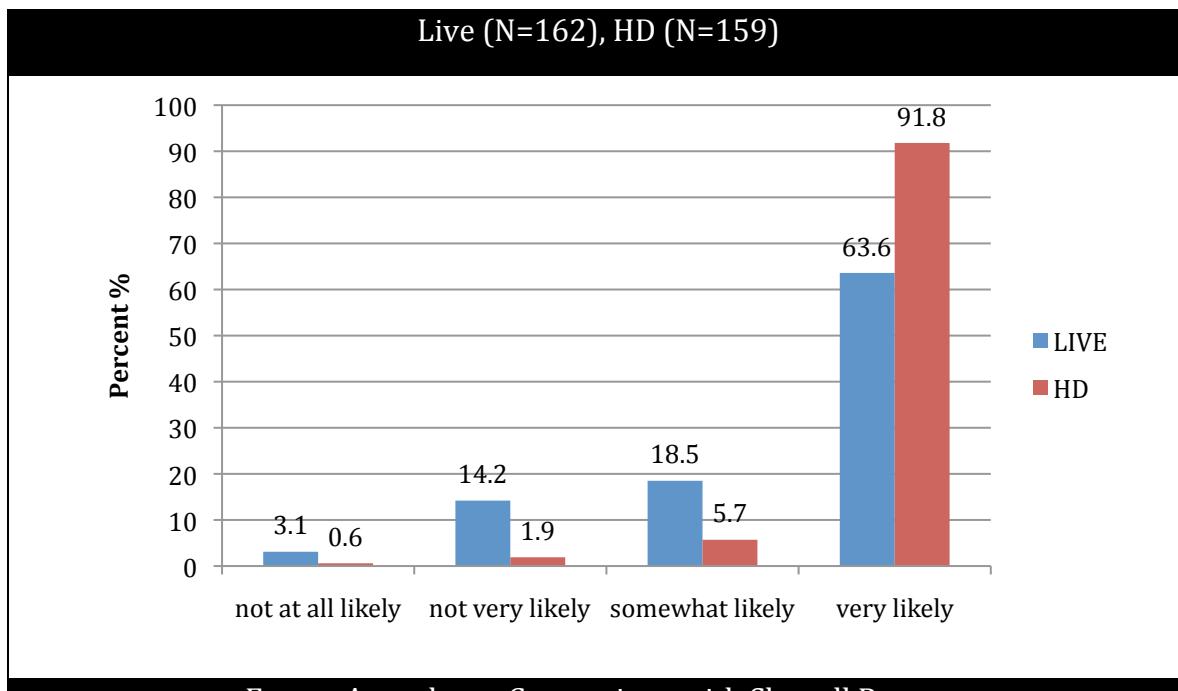
HD promotes attendance to itself and probably does not promote live opera attendance. There is no evidence of a relationship between past HD attendance and future live opera attendance. Attendees “try it” they “like it” and want to reattend HD not live opera.

In the aggregated sample, HD future attendance is more likely than live future attendance (see Figure 13). This finding is consistent with the Shugoll Report. In

both studies, over 90 percent of respondents are very likely to reattend *Live in HD*. In contrast, the likelihood of live future attendance has decreased since the Shugoll Report from 75 percent to 64 percent.

When comparing future attendance between sample locations (movie theatre and live venues), the mean difference is greatest in the movie theatre segment of the aggregated sample (see Figure 14). We treated the response to our scale from 1 (not all likely) to 4 (very likely) as if they were interval data to generate mean ± standard deviation future attendance scores. All results are statistically significant within samples and between samples ( $p<0.05$ ).

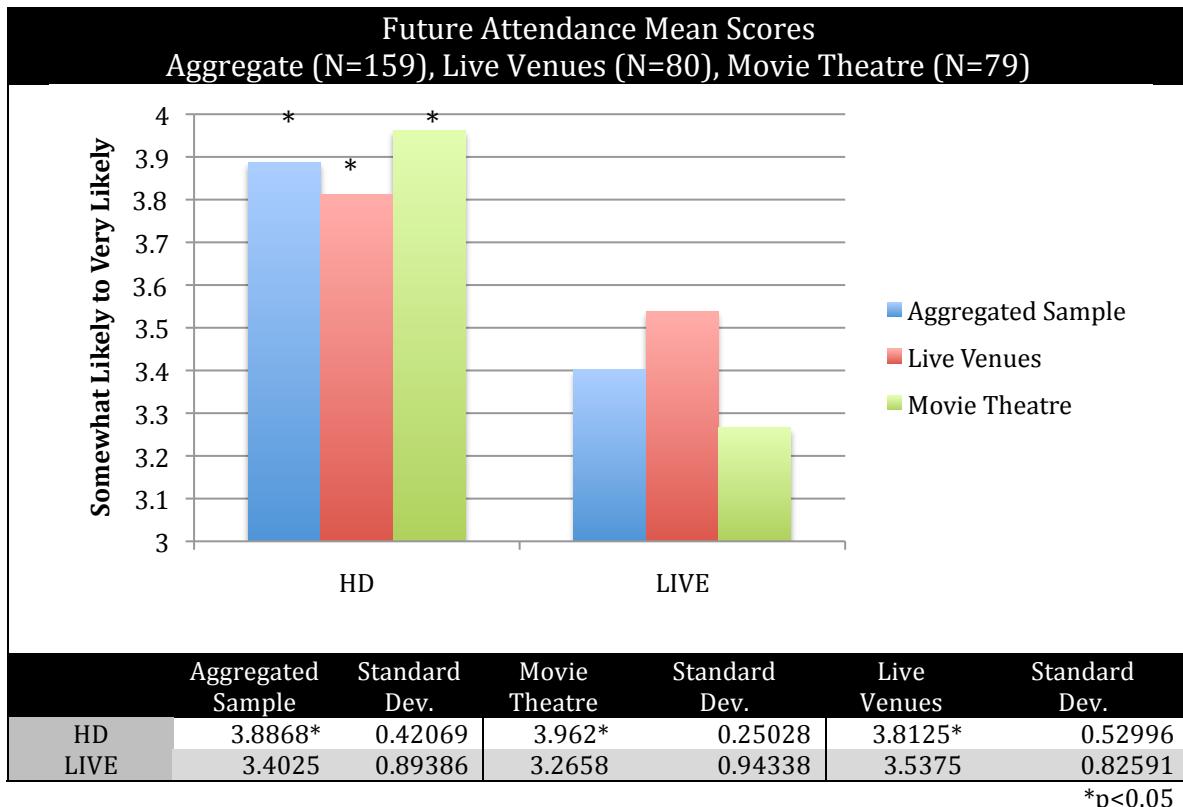
**Figure 13:** Likelihood of live/HD future attendance



Future Attendance Comparison with Shugoll Report

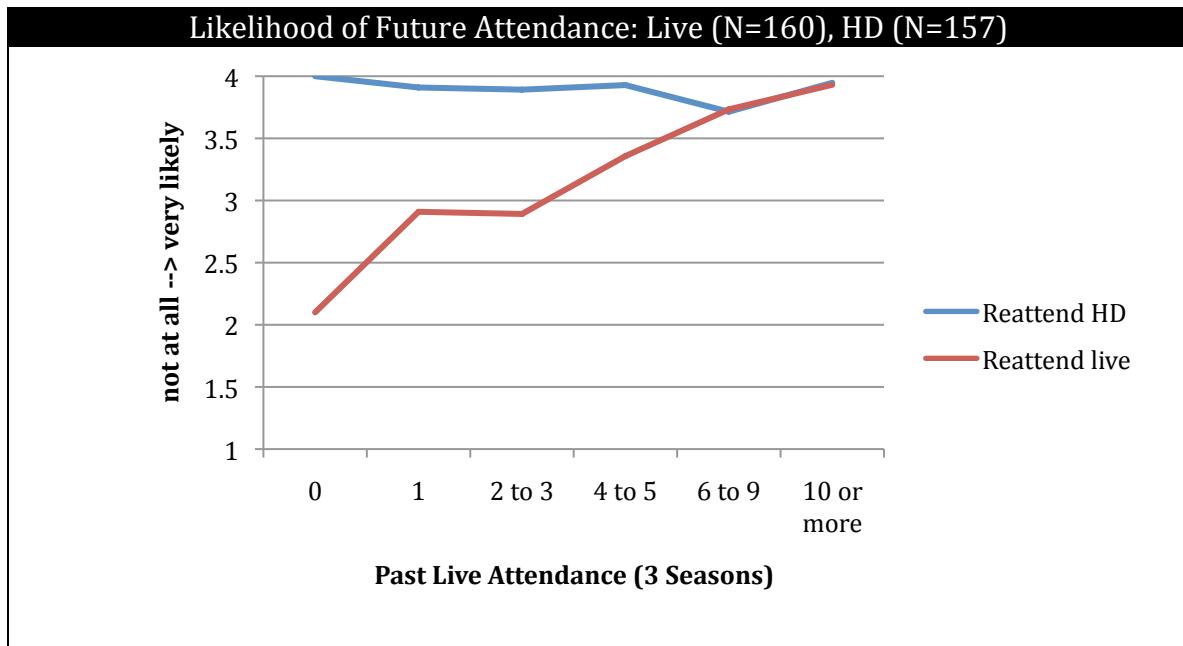
	Future Attendance for Live		Future Attendance for HD	
	(N=5230) Shugoll Report	(N=162) <i>Live in HD</i> Survey	(N=5237) Shugoll Report	(N=159) <i>Live in HD</i> Survey
Very Likely	75%	63.6%	90%	91.8%
Somewhat Likely	17%	18.5%	8%	5.7%

**Figure 14:** Likelihood of live/HD future attendance: mean scores



Likelihood of future attendance to either form seems to be independent of past attendance to the other. Past live attendance does not predict HD future attendance (see Figure 15). The likelihood of live future attendance does increase with past live attendance (from 2.1 to 3.9). The more you attend, the more likely you are to go. However, the likelihood to reattend HD is very high no matter what the level of live attendance.

**Figure 15:** Likelihood of HD/live future attendance with increased past live opera attendance



The future attendance decision is also affected by preference (see Table 10).

Preference is one indicator of loyalty that may be associated with deciding to reattend in the future. We found that those that prefer “HD”, are much more likely to reattend HD than live. Interestingly, those that prefer “both” or “live” are likely to reattend both HD and live opera. There is an apparent asymmetry in the future attendance response to each form when the sample is divided by preference. This leads to further investigation whether this phenomenon is persistent.

**Table 10:** Likelihood of future attendance vs. preference

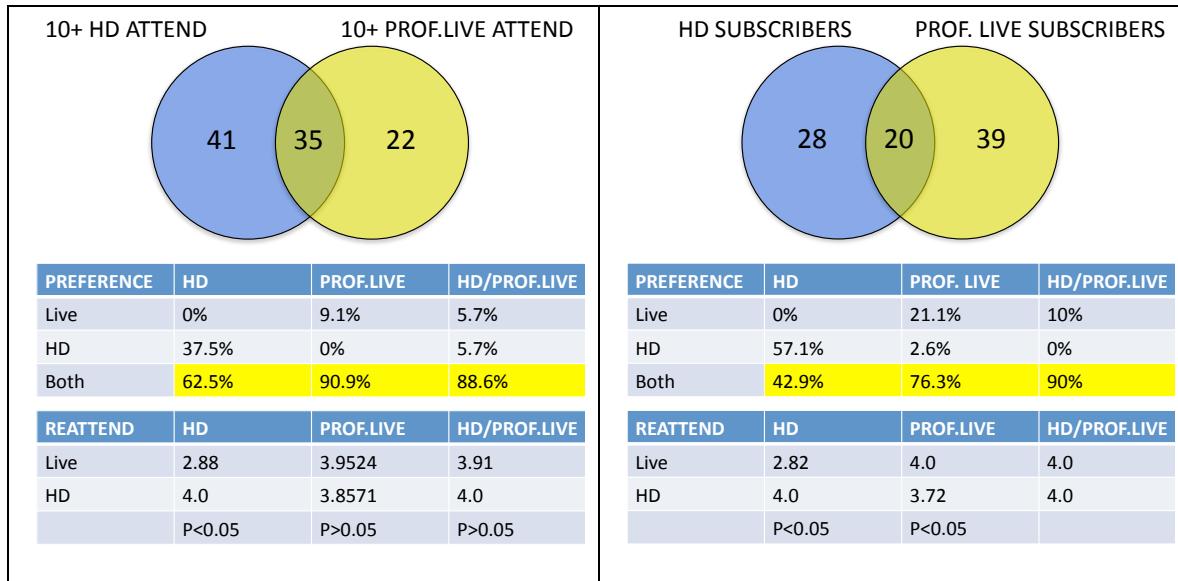
Do you prefer HD, live or both?	How likely are you attend?		
			HD
	HD	Mean	3.9655*
		N	29
Standard Deviation			0.1857
Live	Live	Mean	3.5
		N	14
		Standard Deviation	0.94054
Both	Both	Mean	3.9204*
		N	113
		Standard Deviation	0.33117
Total	Total	Mean	3.891*
		N	156
		Standard Deviation	0.4185
			0.88917

\*p<0.05

We examined two other loyalty factors that may be associated with promoting future attendance: frequent past attendance and subscription status.

We compared preferences and future attendance mean scores of very frequent HD attendees with very frequent live attendees (the largest groups of our sample). We also compared professional live opera subscribers with HD subscribers (see Figure 16).

**Figure 16:** Preference and future attendance mean scores for frequent HD/live attendees and HD/professional live opera subscribers



Respondents were separated into three mutually exclusive groups since some very frequent live operagoers are also very frequent HD goers. To compare future attendance means scores within groups, we used paired T-tests (see Figure 13). To compare future attendance mean scores across groups we used a basic one-way ANOVA procedure. HD future attendance means across groups are not statistically significant ( $p>0.05$ ). Live future attendance means across groups are significant ( $p<0.05$ ).

We found that very frequent live attendees prefer “both” and are likely to reattend HD and live. In contrast, very frequent HD attendees, prefer “both” and “HD” and are much more likely to reattend HD than live. For respondents that are very frequent live as well as very frequent HD attendees, they strongly prefer both and are equally likely to reattend HD and live. This result is replicated when comparing *Live in HD*

and professional live opera subscribers. The only difference is that HD future attendance means were statistically significant ( $p<0.05$ ) using the one-way ANOVA procedure.

These findings suggest that when a respondent displays loyalty to HD (either in preference, past attendance or subscription), they are likely to reattend HD but not necessarily live opera. If the respondent displays loyalty to live opera (along the same metrics), they are likely to want to reattend both. Table 11 summarizes the future attendance mean scores for the groups we compared within the sample.

The implication is that *Live in HD* and live opera may produce asymmetrical future attendance behavior. Our sample does not include people who have not attended *Live in HD*. This population may not be interested in attending cinema opera and may have a strong preference for live opera. The point is that there is an analogous population among HD-goers, and when live operagoers do attend HD they are likely to want to attend HD again.

**Table 11:** Comparison future attendance mean scores

	N	Reattend HD	Standard Dev.	Reattend LIVE	Standard Dev.
<b>0-1 past live attendees</b>	21	3.9524*	0.21822	2.5238	1.12335
<b>HD preference</b>	29	3.9655*	0.1857	2.6207	1.08278
<b>HD subscribers</b>	28	4.0*	0	2.8214	1.05597
<b>10 or more HD attendees</b>	41	4.0*	0	2.878	0.97967
<b>Non-subscribers</b>	60	3.9167*	0.33404	3.2333	0.9273
<b>Live preference</b>	14	3.5	0.94054	3.5333	0.91548

	N	Reattend HD	Standard Dev.	Reattend LIVE	Standard Dev.
<b>Both preference</b>	113	3.9204*	0.33117	3.6174	0.70813
<b>10 or more HD/live attendees</b>	35	4.0	0	3.9143	0.37349
<b>10 or more past live attendees</b>	21	3.8571	0.47809	3.9524	0.21822
<b>Prof. live subscribers</b>	36	3.7222*	0.70147	4.0	0
<b>HD/Live Prof Subscribers</b>	19	4.0	0	4.0	0

\*p<0.05

We can conclude that *Live in HD* attendance produces high rates of future attendance that are independent of whether the participant has attended live opera frequently or infrequently. Combined with the asymmetrical relationship found in future attendance, our findings suggests that *Live in HD* effectively promotes itself and probably does not promote live opera attendance.

## **DISCUSSION**

The discussion focuses on two areas: 1) the success (and/or failure) of the *Live in HD* program and 2) possible changes in opera-going behavior in the local opera market.

### **Success (and/or Failure) of the *Live in HD* Program**

Over its short history *Live in HD* has had great success drawing audiences into the movie theatre to watch opera. Every season, the program has expanded in audience reach and content. In our case, the 2010-2011 *Live in HD* Season consisted of 31 performances transmitted into six movie theatres in the metropolitan area. In contrast, the local professional opera company presented 18 performances at one downtown venue. Over the past 5 years, HD has grown while live opera has remained the same. The local market seems to be able to bear more opera performance like *Live in HD*. The Met has effectively tapped into this unmet demand. Arguably the program boosts the general consumption of opera performance reaching a wider audience and reinvigorates the art form.

However, *Live in HD* still fails to attract new audiences to opera. The majority of people who attend *Live in HD* are established live operagoers. The demographic profile of the audience has not changed since the program's inception and *Live in HD*'s audience is also similar to the current live opera audiences. Ironically, if *Live in HD* draws mainly existing operagoers, the program will have its greatest success in markets with an established local live opera audience.

More importantly, there is no evidence that *Live in HD* attendees (including the infrequent live opera goers) are more likely to want to attend the real experience in their local opera house. Indeed, there is some evidence that the program is so successful that it builds a loyal following – audiences attend because they enjoy the experience, some decide to subscribe, others begin to prefer the format. All in all, HD audiences are very likely to want to come back to another broadcast.

### **Possible Changes in Opera-Going Behavior**

Several factors may be changing opera-going attendance behavior and preferences among HD attendees. Our results suggest that operagoers perceive HD and live opera in the same product category. Both forms fulfill the same needs for operagoers – an authentic operatic experience. HD is not perceived as an inferior product to live opera. In fact, HD is rated consistently higher in basic comparative evaluation criteria and its ticket cost is rated more reasonable. HD may lure away price-sensitive patrons, or those who simply cannot afford live opera.

The change in the most important reason for attendance to “previous experience” for *Live in HD* represents a fundamental shift in the format’s market position. The product is becoming an opera mainstay. Operagoers are attending because of product satisfaction, which may lead to greater product loyalty. Loyalty is evident by the prevalence in HD subscription and the shift in preferences since the Shugoll Report. Not only do more people prefer HD exclusively, more people prefer it over

live. Over only five seasons, *Live in HD* has managed to build an audience. For the foreseeable future, HD should continue to do so.

The good news story for live local opera companies is that for people who do attend live opera on a regular basis, *Live in HD* does not dissuade live attendance. The overwhelming majority of HD-attendees do still prefer both *Live in HD* and live opera. *Live in HD* does not draw away the established audience from attending live opera, but rather gives operagoers that do not see live professional opera regularly, for whatever reason, an opportunity to see opera on a regular basis.

There may be asymmetrical future attendance behavior induced by HD and live opera. Although we did not survey those who do not attend *Live in HD*, for regular live opera attendees who do attend, HD is a complement –an added opera experience for regular live opera attendance. For some portion of frequent HD attendees, HD may be a substitute for infrequent live opera attendance. “Complement” suggests that two products will be consumed together, and “substitute” suggests one product will be consumed instead of the other.

Possible reasons for the substitution effect shown at HD may be that it is more affordable and not perceived as an inferior good to live opera. Pinpointing these reasons requires further study.

This research shows that *Live in HD* does not at present cannibalize the local live opera audience, but it does establish an audience for itself and probably does not promote live opera attendance. *Live in HD* is not viewed as an inferior product to live opera. The program does not generate more live opera attendance nor does it bring new audiences into local opera houses.

## LIMITATIONS

The study used a similar methodology to the Shugoll Report. The goal was to obtain a broad sample of the HD-going population. We had access to two distinct populations rather than a true random sample. Some groups may be over-represented (professional live opera subscribers) and other groups may be under-represented (*ad hoc* infrequent operagoers). In addition, to conclusively answer the research questions that involve future live opera attendance our sample would need to include respondents that do not attend *Live in HD*. Our study (by design) does not include these operagoers.

The sampling procedure was bound by available resources and access to the HD-going population. The survey was only conducted at one *Live in HD* venue, a downtown location less than 1 kilometer away from the live professional opera theatre. *Live in HD* is transmitted into multiple venues in urban, suburban and rural communities. Location could have an impact on our findings.

The survey was completely self-administered. Respondents had to read the advertisement card (prompted by an incentive to win opera tickets) and be motivated to respond post performance. Survey taking could not inhibit the patron opera going experience. In contrast to Shugoll's survey, the survey was conducted online instead of with pencil and paper during opera performances at intermissions.

As a result, the survey did not enjoy the same high response rate as the Shugoll Report. The procedure where participants were required to complete the survey sometime after their experience could have adversely affected the response rate and quality of the responses. A greater response rate would have reduced possible random error in the sample and increased the validity of the findings. Nevertheless, our sample was representative when compared with demographic measures in the original Shugoll Report.

The robustness of the findings is not only bound by small sample size but also by the statistical tools used. The statistical procedures undertaken in this study are preliminary. Multivariate analysis and corrections for multiple comparisons for example would increase the validity and robustness of the findings.

Finally, the ability to generalize this survey to other cities needs to be investigated. The study was completed in only one city. This city and the movie theatre was a sample location in the original Shugoll Report. Nevertheless, findings may be influenced by local conditions specific to the geographic area and may be different in other metropolitan areas where local live opera exists.

## FUTURE DIRECTIONS

This study serves as a preliminary insight into the effect of *The Met: Live in HD* on local opera attendance. Further empirical research is required to reinforce or possibly challenge the conclusions drawn from the survey.

We concluded that a possible substitution effect exists for some portion of the HD audience. We suspect that this effect may be driven by price-sensitivity combined with the fact that *Live in HD* is not viewed as an inferior good. Future surveys should focus on pinpointing the trade-off operagoers make in their attendance and the role price plays on opera-going decisions.

We were also not able to establish if there was a relationship with future attendance to either *Live in HD* or live opera and past attendance to the other. To determine conclusively whether HD attendance affects the likelihood of live attendance, one would also need to survey live opera audiences that do not attend *Live in HD*. Perhaps a relationship does exist but further research is required.

Our study took place in only one metropolitan area. Although this city is representative of other opera markets, several findings may be the result of local conditions. A broader study in multiple markets will be able to reveal whether the effects of *Live in HD* are widespread. We concluded that *Live in HD* might be more successful in areas with established opera companies because a receptive opera-going audience already exists. The Metropolitan Opera transmits *Live in HD* into

urban, suburban and rural communities. A study that includes all these different types of markets will be able to gauge the penetration of *Live in HD* where there is no live opera company.

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## APPENDICES

### Appendix A: Comments from *Live in HD* Survey

Select qualitative responses answering the question: "Has *The Met: Live in HD* changed your opinion about the value of local live opera?"

"I have always been impressed by local live performances in the past, but now that I have seen The Met, I love the costumes and staging, the amazing quality of the acting and choreography, and of course the quality of the singing. I also love the backstage interviews with famous singers who I would never get to see in our area. It is not quite the same atmosphere of live theatre, but overall the experience is superior. I realise (sic) there is a huge budget difference, and our city is still "small town" artistically speaking, but it has grown hugely over the years and will continue to grow."

"I appreciate the costs involved in live opera but find the cost prohibitive for the type of seat I would want at a live performance. I was a subscriber to my local live opera company for many many years, but now the Met HD performances suit my budget and the quality is wonderful, although I acknowledge the experience is different."

"I enjoy both, and believe the Met has created a new art form that can't be compared with attending a traditional performance. Each is great in its own way."

"I like the fact Met LIVE in HD always encourages us to support our local opera--and that nothing beats live performance. That said . . . ticket price for good seats is what holds me back from going to more live performances."

"It hasn't changed my opinion of local live opera, but it reminds me to go. Price and limited runs (conflicting schedules) prevent me from accessing live local opera, so Live in HD gives me access to seeing opera performances I can't otherwise afford."

"It just emphasized the relative paucity of local performances and variety"

"I still love life opera, but can't afford excellent seats."

"I prefer live opera but I consider the HD an enjoyable, but quite different, experience."

"My wife and I are were new to opera when HD transmissions started. Due to HD, we have come to love opera and to attend live performances."

## Appendix B: *Live in HD* Survey

Q.A: Have you attended a ***The Met: Live in HD*** opera transmission[s] **in the movie theatre?** (select one)

Attended	<input type="checkbox"/>
Not Attended	<input type="checkbox"/>

Q.1: In the current 2010/2011 season, which of *The Met: Live in HD* transmissions have you attended? (check all that apply)

Das Rheingold (Oct 9)	<input type="checkbox"/>
Das Rheingold Encore (Nov 20)	<input type="checkbox"/>
Das Rheingold Encore (Nov 29)	<input type="checkbox"/>
Boris Godunov (Oct 23)	<input type="checkbox"/>
Boris Godunov Encore (Nov 27)	<input type="checkbox"/>
Don Pasquale (Nov 13)	<input type="checkbox"/>
Don Pasquale Encore (Dec 4)	<input type="checkbox"/>
Don Carlo (Dec 11)	<input type="checkbox"/>
I haven't attended this season	<input type="checkbox"/>

Q.2: How many *The Met: Live in HD* transmissions have you attended in its past **3 seasons including this one?** (select one)

1	<input type="checkbox"/>
2-3	<input type="checkbox"/>
4-5	<input type="checkbox"/>
6-9	<input type="checkbox"/>
10 or more	<input type="checkbox"/>

Q.3: What is the most important reason why you decided to attend *The Met: Live in HD?* (select one)

I wanted to see a particular opera	<input type="checkbox"/>
I enjoyed my previous <i>The Met: Live in HD</i> experience	<input type="checkbox"/>
I heard something good about the production	<input type="checkbox"/>
I wanted to try something new	<input type="checkbox"/>
I have a subscription for <i>The Met: Live in HD</i>	<input type="checkbox"/>
I was attending with a friend or spouse	<input type="checkbox"/>
I heard something good about the <i>Live in HD</i> experience	<input type="checkbox"/>
Other (please specify): _____	

Q.5: How important were each of the following in your decision to attend the *The Met: Live in HD*?

Please indicate the level of importance with **5** being extremely important and **1** being not at all important

	5-----	3 -----	1		
I love opera and want to see as much as possible	<input type="checkbox"/>				
I want to see a particular opera star	<input type="checkbox"/>				
I want to see a particular opera	<input type="checkbox"/>				
I want to support opera performance	<input type="checkbox"/>				
Price of ticket	<input type="checkbox"/>				
Ease of parking	<input type="checkbox"/>				
Physical comfort of theatre	<input type="checkbox"/>				
Convenient location of theatre	<input type="checkbox"/>				
Time of performance	<input type="checkbox"/>				

Q.6: Overall, what is your rating of *The Met: Live in HD* transmission(s) on the following characteristics? (please indicate your rating)

Please indicate rating with **4** being excellent, **3** being good, **2** being fair and **1** being poor

	4-----	1		
Acoustics -sound quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View from your seat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orchestra quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extras –back-stage interviews, intermission documentaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q.6A: What is the most important characteristic in your evaluation of *The Met: Live in HD*?

Please rank the characteristics from 1 to 6, with **1** being the most important and **6** being the least important

Acoustics -sound quality	<input type="checkbox"/>
View from your Seat	<input type="checkbox"/>
Production Quality	<input type="checkbox"/>
Singing Quality	<input type="checkbox"/>
Orchestra Quality	<input type="checkbox"/>
Extras – back-stage interviews, intermission documentaries	<input type="checkbox"/>

Q.7: How would you evaluate the ticket cost of the *The Met: Live in HD*? (select one)

Very Reasonable	<input type="checkbox"/>
Somewhat Reasonable	<input type="checkbox"/>
Not too Reasonable	<input type="checkbox"/>
Not at all Reasonable	<input type="checkbox"/>
I don't know the ticket cost	<input type="checkbox"/>

Q.8: How likely are you to attend another *The Met: Live in HD* transmission in a movie theater? (select one)

Very Likely	<input type="checkbox"/>
Somewhat Likely	<input type="checkbox"/>
Not too Likely	<input type="checkbox"/>
Not at all Likely	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Q.8a: How likely are you to attend each of the following types of operas if presented by *The Met: Live in HD*?

	Very likely	Somewhat Likely	Not too Likely	Not at all Likely	Don't know
Traditional operas (eg. Don Pasquale, Lucia)	<input type="checkbox"/>				
Famous well-known operas (eg. La Boheme, Rigoletto)	<input type="checkbox"/>				
Modern operas (eg. Nixon in China)	<input type="checkbox"/>				
Lesser-Known operas (eg. Le Comte Ory, Capriccio)	<input type="checkbox"/>				

Q.8b: Did you know that you can subscribe to a full season of *The Met: Live in HD*? (select one)

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

Q.8c: How likely are you to subscribe to a full season of *The Met: Live in HD*? (select one)

Very Likely	<input type="checkbox"/>
Somewhat Likely	<input type="checkbox"/>
Not too Likely	<input type="checkbox"/>
Not at all Likely	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Q.12: Have you attended a **live** opera performance **in Vancouver**? (select one)

Attended	<input type="checkbox"/>
Not Attended	<input type="checkbox"/>

**[SKIP IF YOU HAVE NOT ATTENDED LIVE OPERA IN VANCOUVER]**

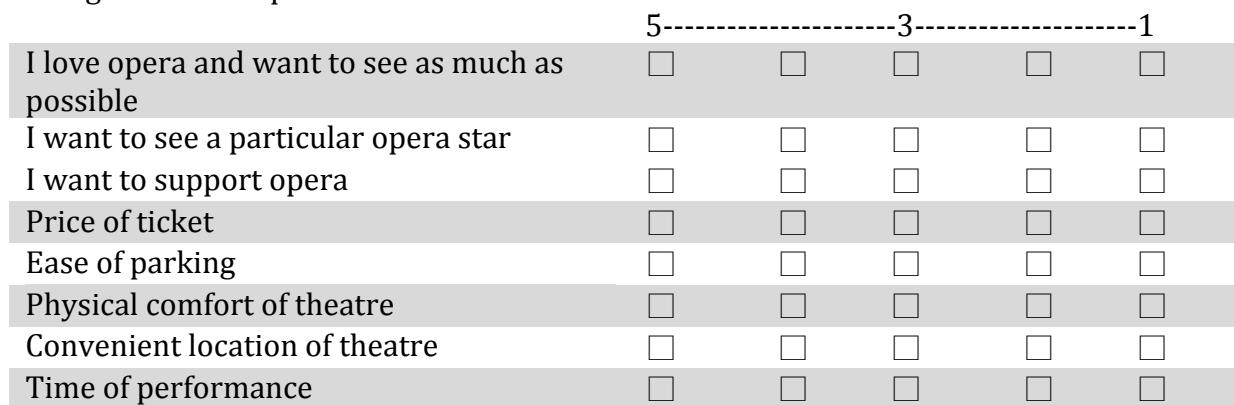
Q.13: What is the most important reason for attending live opera performances **in Vancouver?** [select one]

- I want to see a particular opera
- I enjoyed my previous *The Met: Live in HD* cinema opera and was interested in live
- I hear something good about the production
- Going to the opera is a great night out
- I have a subscription
- I attend with a friend
- I enjoyed my previous live opera experience

**[SKIP IF YOU HAVE NOT ATTENDED LIVE OPERA IN VANCOUVER]**

Q.13: How important are each of the following in your decision to attend live opera performances **in Vancouver?**

Please indicate the level of importance with **5** being extremely important and **1** being not at all important.



**[SKIP IF YOU HAVE ATTENDED LIVE OPERA IN VANCOUVER]**

Q.12a: Although you have not attended a live opera performance in Vancouver, What *would* the most important reason for attending live opera performances **in Vancouver?** [select one]

- I want to see a particular opera
- I enjoyed my previous *The Met: Live in HD* cinema opera and was interested in live
- I hear something good about the production
- Going to the opera is a great night out

I have a subscription

My friend(s) or spouse wants to go the opera

**[SKIP IF YOU HAVE ATTENDED LIVE OPERA IN VANCOUVER]**

Q.13a: Although you have not attended a live opera performance in Vancouver, how important *will* each of the following be in your decision to attend future performances **in Vancouver?**

Please indicate the level of importance with **5** being extremely important and **1** being not at all important.

	5-----	3 -----	1		
I love opera and want to see as much as possible	<input type="checkbox"/>				
I want to see a particular opera star	<input type="checkbox"/>				
I want to support opera performance	<input type="checkbox"/>				
Price of ticket	<input type="checkbox"/>				
Ease of parking	<input type="checkbox"/>				
Physical comfort of theatre	<input type="checkbox"/>				
Convenient location of theatre	<input type="checkbox"/>				
Time of performance	<input type="checkbox"/>				

**[SKIP IF YOU HAVE NOT ATTENDED LIVE OPERA IN VANCOUVER]**

Q.14: Overall, what is your rating on the following characteristics of live opera performances available in Vancouver?

Please indicate rating with **4** being excellent, **3** being good, **2** being fair and **1** being poor

	4-----	1		
Acoustics -sound quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View from your seat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Singing Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orchestra Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extras -pre-show talks, open dress rehearsals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**[SKIP IF YOU HAVE NOT ATTENDED LIVE OPERA IN VANCOUVER]**

Q.14A: What is the most important characteristic in your evaluation of a live opera performance?

Please rank the characteristics from 1 to 6, with **1** being the most important and **6** being the least important

Acoustics – sound quality	<input type="checkbox"/>
View from your Seat	<input type="checkbox"/>
Production Quality	<input type="checkbox"/>
Singing Quality	<input type="checkbox"/>

Orchestra Quality	<input type="checkbox"/>
Extras – pre-show talks, open-dress rehearsals	<input type="checkbox"/>

Q.15: How would you evaluate the ticket cost for professional live opera performances (e.g. Vancouver Opera)? (select one)

Very Reasonable	<input type="checkbox"/>
Somewhat Reasonable	<input type="checkbox"/>
Not too Reasonable	<input type="checkbox"/>
Not at all Reasonable	<input type="checkbox"/>
I don't know the ticket cost	<input type="checkbox"/>

Q.15: How likely are you to attend a local professional live opera performance in the next 12 months? (select one)

Very Likely	<input type="checkbox"/>
Somewhat Likely	<input type="checkbox"/>
Not too Likely	<input type="checkbox"/>
Not at all Likely	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Q.15a: How likely are you to attend each of the following types of operas if presented by a professional company (e.g. Vancouver Opera)?

	Very likely	Somewhat Likely	Not too Likely	Not at all Likely	Don't know
Traditional operas (eg. Lucia, Cinderella, Don Giovanni)	<input type="checkbox"/>				
Famous well-known operas (eg. La Boheme, La Traviata)	<input type="checkbox"/>				
Modern operas (eg. Lillian Alling, Nixon)	<input type="checkbox"/>				
Lesser-known operas (eg. La Clemenza di Tito, Albert Herring)	<input type="checkbox"/>				

Q.16: How likely are you to purchase a subscription to Vancouver Opera in the future? (select one)

Very Likely	<input type="checkbox"/>
Somewhat Likely	<input type="checkbox"/>
Not too Likely	<input type="checkbox"/>
Not at all Likely	<input type="checkbox"/>
Don't Know	<input type="checkbox"/>

Q.16A: Are you more likely to purchase single tickets rather than subscription tickets?

Very Likely	<input type="checkbox"/>
Somewhat Likely	<input checked="" type="checkbox"/>
Not too Likely	<input type="checkbox"/>
Not at all Likely	<input checked="" type="checkbox"/>
Don't Know	<input type="checkbox"/>

Q.10: Where and how often you enjoy live opera performances?

	Frequently	Occasion-ally	Rarely	Never
I attend the Vancouver Opera performances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I attend the UBC Opera performances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I attend the Pacific Opera Victoria performances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I attend Seattle Opera performances	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I travel to other opera houses in Canada or other countries	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q.9a: In total, how many local? live opera performances have you attended in the **last 3 seasons including this one?** (select one)

0	<input type="checkbox"/>
1	<input checked="" type="checkbox"/>
2-3	<input type="checkbox"/>
4-5	<input type="checkbox"/>
6-9	<input type="checkbox"/>
10 or more	<input type="checkbox"/>

Q.11: Are you currently a subscriber to any of the following? (check all that apply)

Vancouver Opera	<input type="checkbox"/>
UBC Opera	<input type="checkbox"/>
Pacific Opera Victoria	<input checked="" type="checkbox"/>
Seattle Opera	<input type="checkbox"/>
The Met: Live in HD	<input type="checkbox"/>
Other	<input type="checkbox"/>
None	<input type="checkbox"/>

Q.17: Do you prefer to attend:

<i>The Met: Live in HD</i> opera transmission	<input type="checkbox"/>
Live opera performance	<input type="checkbox"/>
Both HD opera transmissions and live opera performances	<input type="checkbox"/>

Q.18: Has *The Met: Live in HD* changed your opinion about the value of local live opera?

Comments:

Q.19: What is your gender?

Female	<input type="checkbox"/>
Male	<input type="checkbox"/>

Q.20: What is your age?

Under 21	<input type="checkbox"/>
21-29	<input type="checkbox"/>
30-39	<input type="checkbox"/>
40-49	<input type="checkbox"/>
50-59	<input type="checkbox"/>
60+	<input type="checkbox"/>

Q.21: What is the highest level of education you completed?

Less than High School	<input type="checkbox"/>
High School Graduate	<input type="checkbox"/>
Some College	<input type="checkbox"/>
College Graduate	<input type="checkbox"/>
Graduate or Professional Degree	<input type="checkbox"/>

Q.22: What is your annual household income before taxes?

Less than \$24999	<input type="checkbox"/>
\$25000 to \$49999	<input type="checkbox"/>
\$50000 to 74999	<input type="checkbox"/>
\$75000 to \$99999	<input type="checkbox"/>
\$100,000+	<input type="checkbox"/>

Q.23: We are interested in knowing how far you live from downtown Vancouver.

What is your postal code: \_\_\_\_\_