



Dance Venue Leadership & Programing Report

FEBRUARY 2020

Report Summary

Dance Data Project®'s latest report, the first of 2020 and produced in collaboration with the Center for Equity, Gender, and Leadership (EGAL) at UC Berkeley's Haas School of Business, examines 50 leading ballet performance venues in the United States to provide quantitative analysis of the organizations' programing and leadership equity. Of note: venue leadership was found to be consistently equitable among venues of varying sizes (large, medium and small capacity), with approximately 45% of leadership positions held by women. The report found that higher levels of female leadership in ballet companies is positively correlated with more female-choreographed pieces being performed at the venues. In other words, once a venue selected a company for a series of performances, companies headed by women are more likely to showcase work by female choreographers. Higher levels of female leadership in venues are not, however, found to be associated with more female-led companies or female-choreographed pieces being programed by those venues. DDP intends to conduct a qualitative analysis of interviews with current and former leaders at a selection of venues to deepen our exploration of findings at a later date.

Introduction

This project was completed as a collaboration between Dance Data Project® and the Center for Equity, Gender, and Leadership (EGAL)¹ at UC Berkeley's Haas School of Business. The results of Dance Data Project's® 2018-2019 Season Overview, published in July 2019, indicated significant choreographer gender disparities in the works

1 More information can be found at <https://haas.berkeley.edu/equity/>.

performed by the “Top 50 Companies”² in the United States. Specifically, that report found that women only choreograph approximately 20% of the works performed at the Top 50 Companies in the United States.³ Building on these findings, this report examines gender diversity and inclusion at the leadership and decision-making level for 50 leading ballet performance venues in the United States and provides analysis regarding the gender diversity of the companies and choreographers selected to perform at these venues. This report uses open-source data to determine if increased gender inclusion at venue and company leadership levels is associated with increased selection rates for classical ballet pieces choreographed by women.

The report describes the following key findings, along with findings related to secondary research questions (causation is not implied):

- (1) The more equitable the leadership in ballet companies, the more equitable the programing of these companies at a major dance venue.
- (2) There is no indication that dance venues with more equitable leadership program companies with more equitable leadership or programing.
- (3) Large, medium, and small-sized dance venues have an average of 45% female leadership, indicating that venue size does not play a role in leadership inclusivity.

Findings

The following is a series of statements regarding the relationships between the majority of the variables defined above. Each finding has been provided an individual page to aid comprehension. As a reminder, please do not interpret any correlations identified below, even statistically significant ones, to be indicative of a causal relationship.

For additional information regarding how to interpret the correlation and p-values below, please see Appendix D. For supplementary findings concerning secondary variables and research objectives, please see Appendix E. For a detailed explanation of the methodology used in this study, as well as a glossary of the terms used below, please see Appendix F.

2 The “Top 50 Companies” were determined by selecting the companies with the largest recorded expenditures in 2018, and will be updated by DDP® annually.

3 2018-2019 Season Overview (2019), Dance Data Project, <https://www.dancedataproject.com/research/#latest-paper> (retrieved on November 12, 2019).

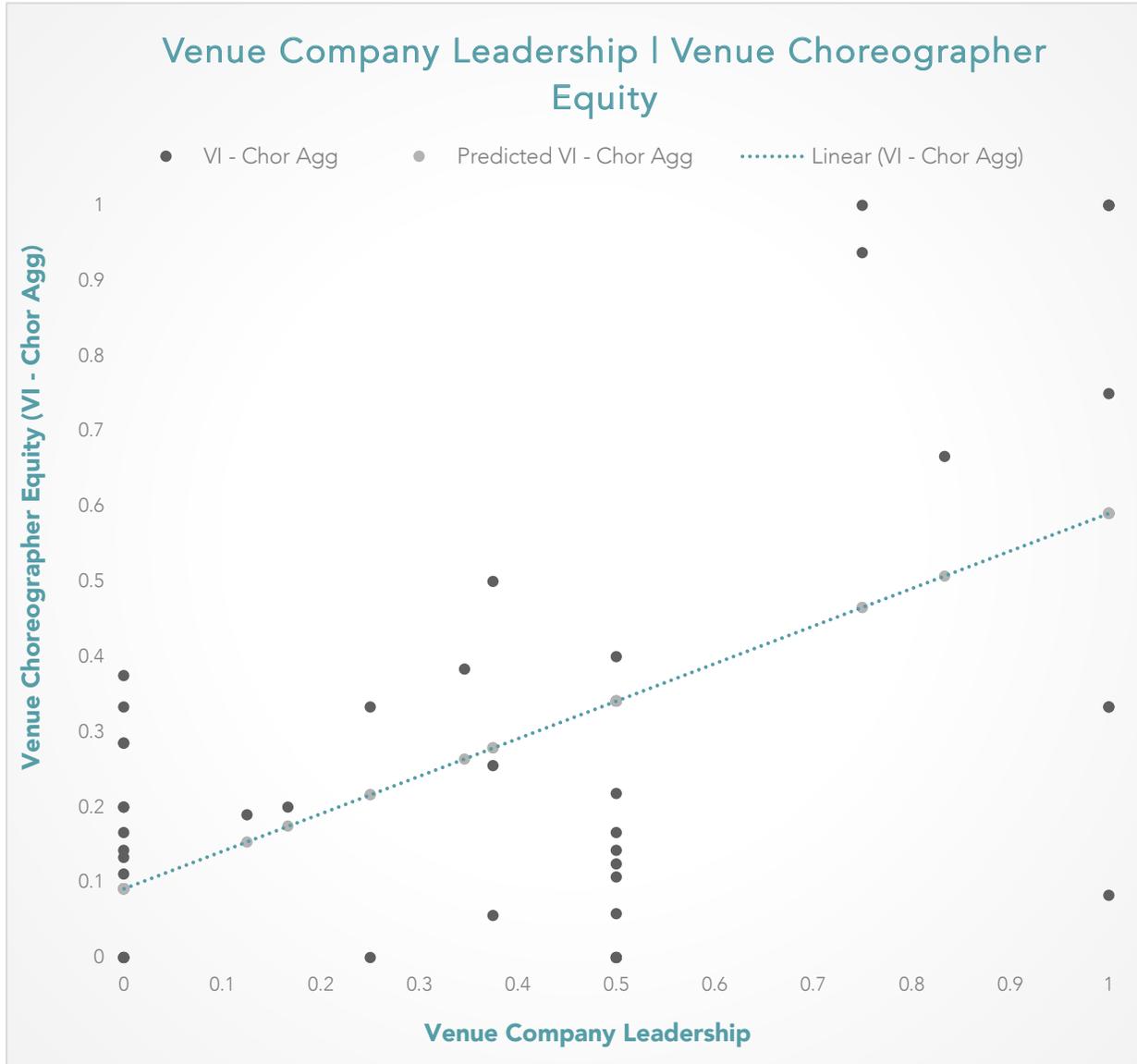
(1) The largest 50 venues programming classical ballet in the United States demonstrate close to gender parity in leadership.

When broken into three subgroups of capacity (small venue, medium venue, and large venue), **venues do not differ significantly in percentage of women in leadership.**

Subgroup	Capacity	% Women in Leadership
Large Venue	3000+	45.5%
Medium Venue	1500 to 2999	43.9%
Small Venue	Under 1500	45.5%

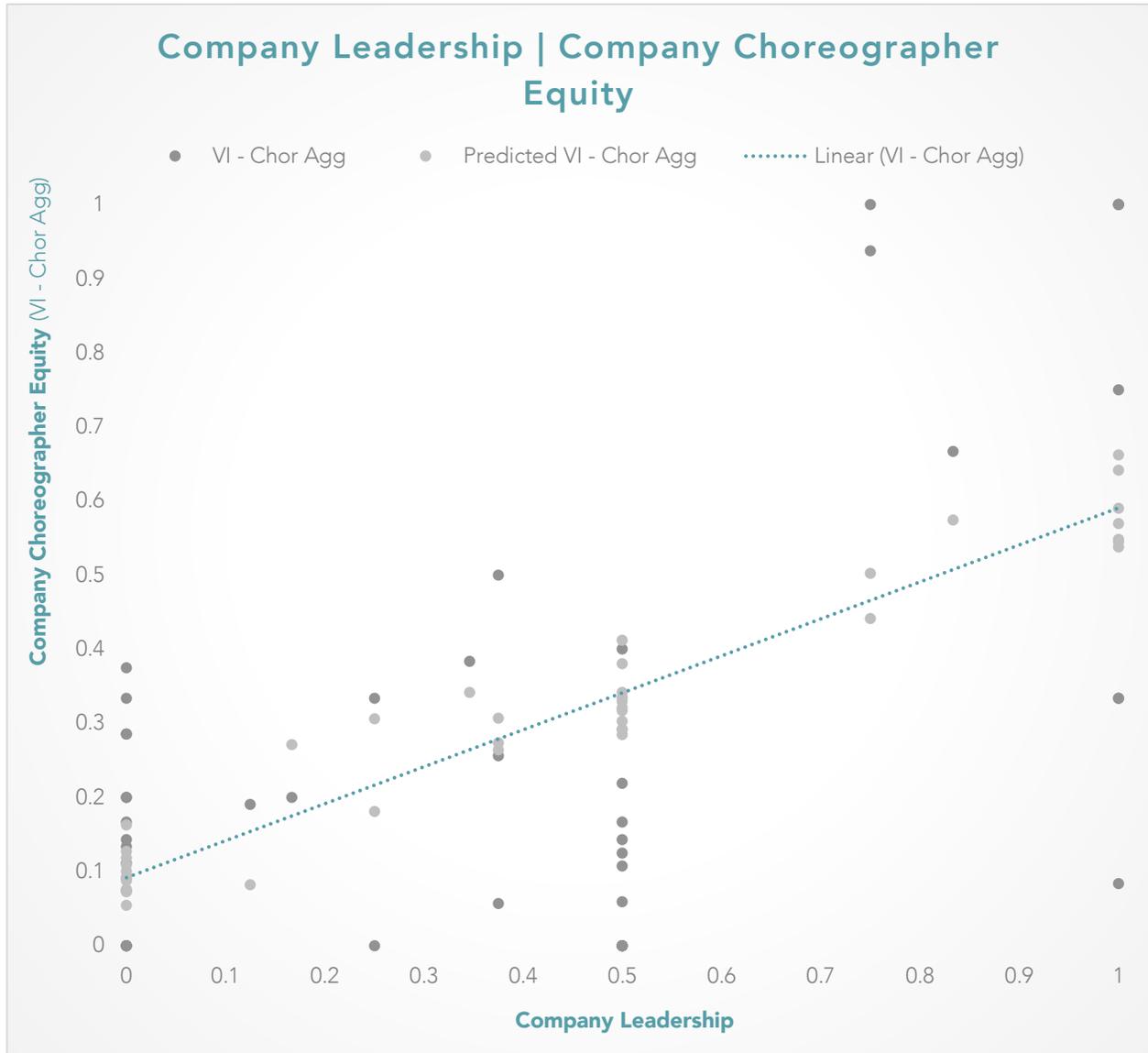
Venues do not have more or less women in leadership based on their capacity or size

(2) The data shows a strong, positive, and statistically significant relationship between Venue Company Leadership and Venue Choreographer Equity, with a correlation of 0.576 and a p-value < 0.001.



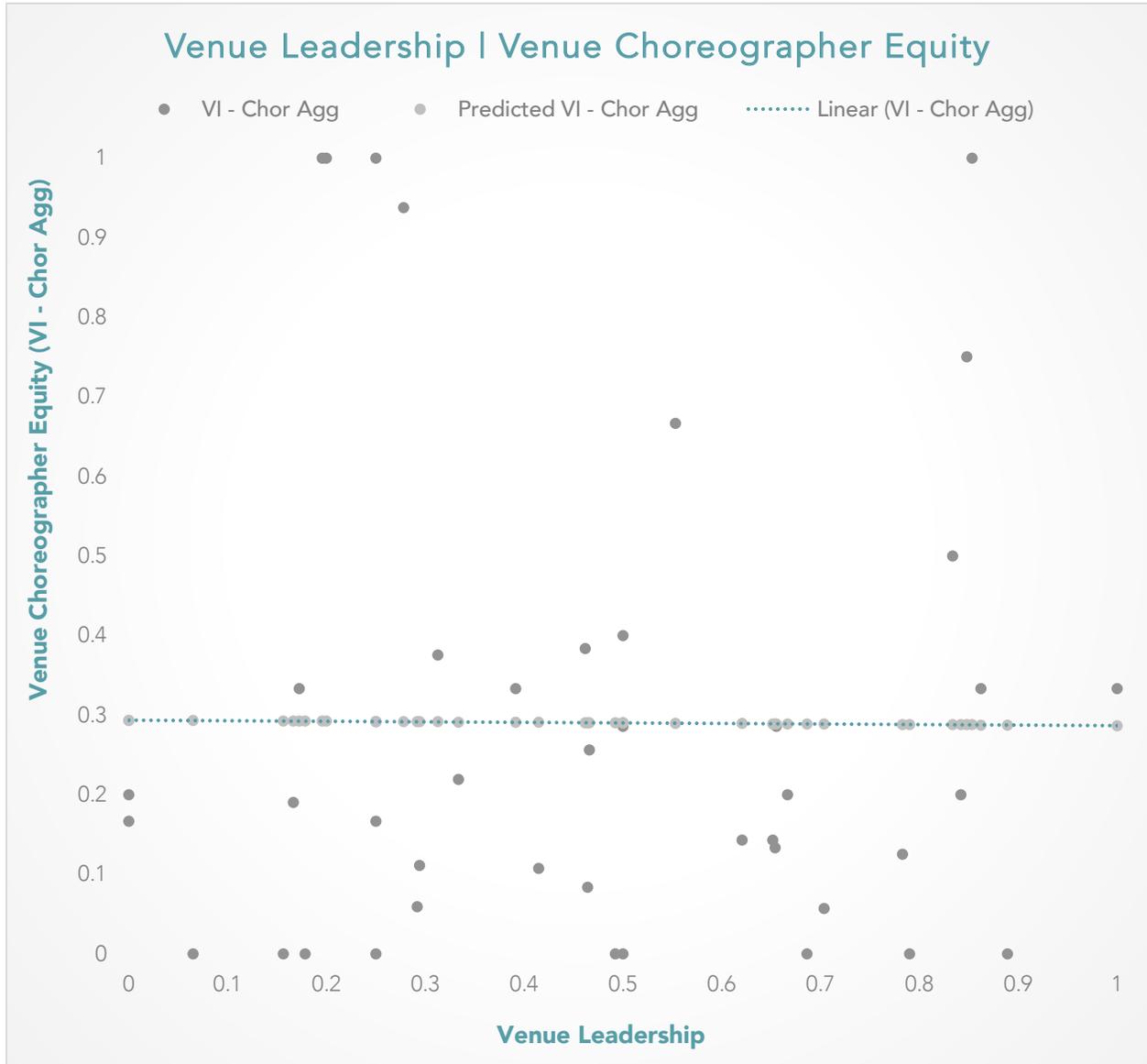
The more women in the leadership of the ballet companies that perform at a single venue, the more women choreographers in the programing of these companies at that dance venue. Findings (2) and (3) suggest that the more women in the leadership of a ballet company, the more women choreographers in programming [at both the company level and the venue level of this sample].

(3) The data shows a strong, positive, and statistically significant relationship between Company Leadership and Company Choreographer Equity, with a correlation of 0.627 and a p-value < 0.001



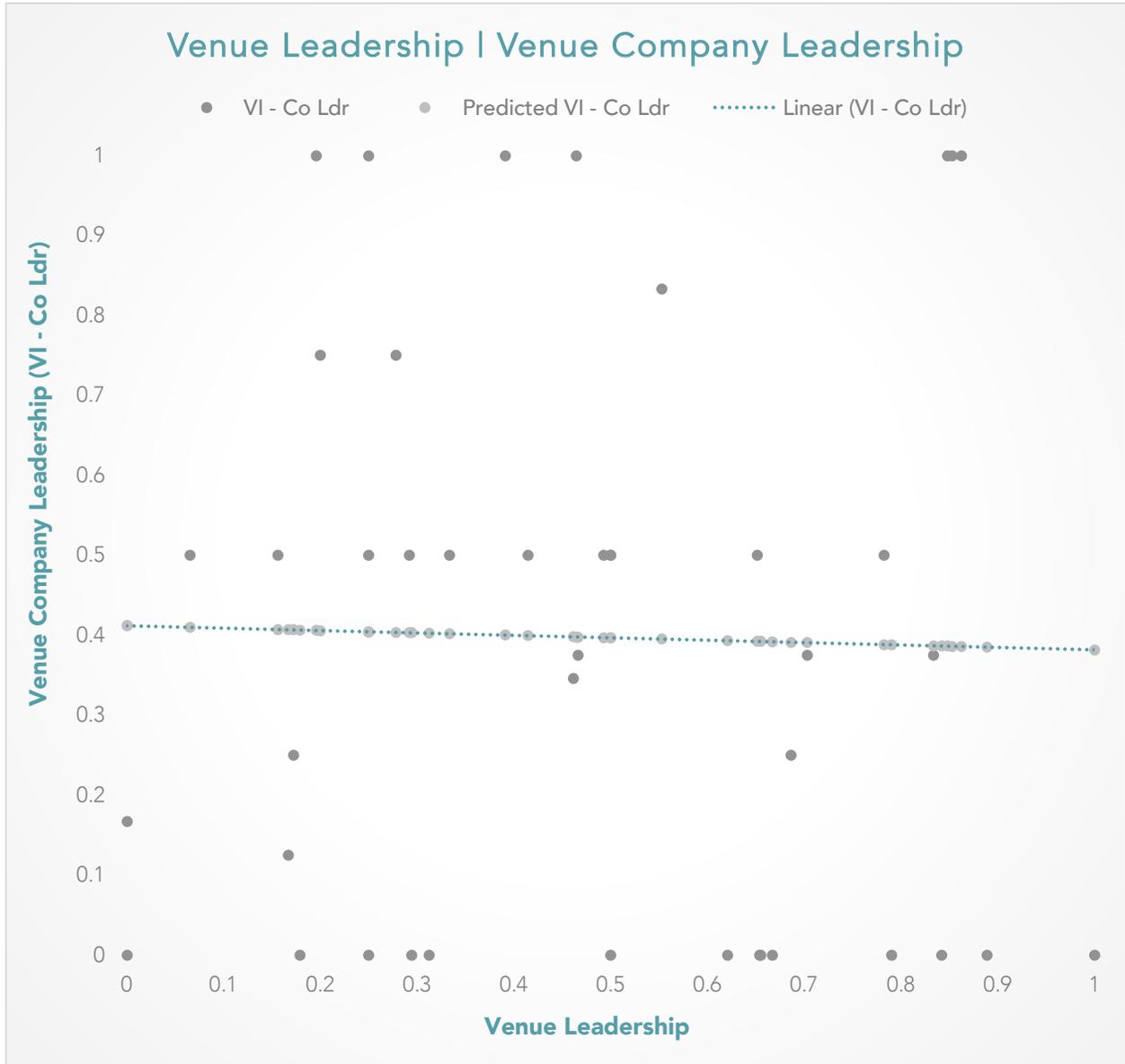
The more women in the leadership of ballet companies, the more women choreographers in the programing of these companies.

(4) The data does not show a statistically significant relationship between Venue Leadership and Venue Choreographer Equity, with a correlation of 0.006 and a p-value of 0.969 ($p > 0.05$).



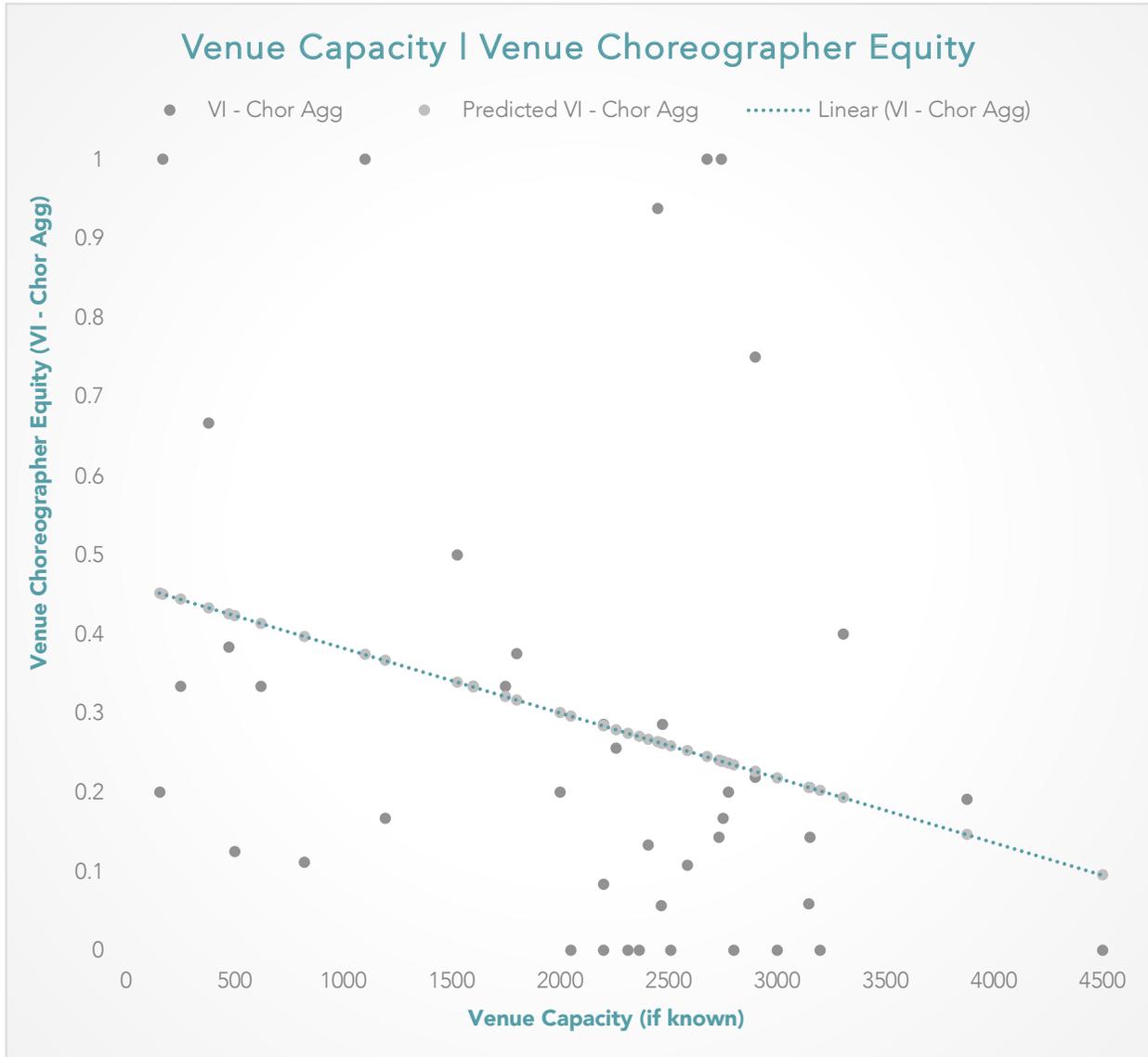
Venues with more women in leadership do not necessarily program more works choreographed by women.

(5) The data does not show a statistically significant relationship between Venue Leadership and Venue Company Leadership, with a correlation of 0.005 and a p-value of 0.975 ($p > 0.05$).



Venues with more women in leadership do not necessarily program ballet companies with more women in leadership.

(6) The data does not show a statistically significant relationship between Venue Capacity and Venue Choreographer Equity, although there is a slightly negative association between the two with a correlation of 0.275 and a p-value of 0.074 ($p > 0.05$).



Venues do not program more or fewer women choreographers based on their capacity or size.

Sources

Fifty ballet performance venues were selected based on expenditure data sourced from GuideStar using Form 990 information, with a preference for venues with higher expenditures. Other factors were also considered, such as ballet performance regularity, existing alignment with ballet companies, and revenue data. The selected venues are widely dispersed within the United States, are variously funded by public, academic, or private sources (or a combination thereof), and are listed in Appendix A of this report.

Programing data for these venues was collected from open sources (primarily venue and company websites) for the 18-month period from January 2018 through June 2019. Analysis of company leadership and choreographer equity (defined in detail later in this report) was conducted at both the “venue level” (measuring gender diversity in leadership and choreographers for companies as selected by each venue) and the “company level” (examining the same measures organized by company without regard to how these companies were selected by venues). The companies included in this study are only those companies that performed at the selected venues during this timeframe, and include U.S. based and non-U.S. based companies when analyzing gender inclusion trends and impacts at the venue level. When analyzing gender inclusion trends and impacts at the company level, this study only examined U.S. based companies.⁴ All choreographers, regardless of geographic or national location, were included for both venue-level and company-level analyses. All data collected for board and leadership composition for venues and companies were collected from open sources.

4 Non-U.S. companies were excluded for the company-level analysis because this study is focused on gender equity and inclusion decisions based on historical and cultural trends in the United States. While the absence of gender equity in classical ballet can be observed world-wide, the causes of the gender leadership gap can vary widely based on the history, government, and culture of the nation or state where a ballet company is located. In order to minimize these confounding variables, we decided to exclude non-U.S. companies for the company-level analysis in order to minimize differences when analyzing relationships between gender equity and other company-level attributes.

Data Limitations

Limitations

- The association between company leadership and choreographer equity could simply be caused by the company leadership also choreographing the pieces the company performs rather than female leaders choosing female choreographed pieces to perform. Additional data collection and analysis that involves cross referencing who leads a company and who choreographs the pieces the company performs would have to be conducted to rule out this possible confounding variable. Even if this were the case, though, a company selected for performance that is led by women that also double as the company's choreographer(s) should still be considered a positive move towards gender equity in classical ballet.
- The data samples were somewhat small for all regressions conducted ($40 < n > 70$), but were large enough to test for statistically valid results. Examining the top 100 (or more) Venues would likely increase the statistical accuracy of the results, primarily by picking up additional venues where larger companies perform and thereby filling in some obvious gaps in the current data set (such as two companies with 200 to 240 members only having one performance each at the venues studied).
- The manner in which venues were selected, by using highest expenditures as an initial screening method, may have played a role in not identifying a statistically significant association between increases in gender equity at the venue level and increases in female-led companies or female-choreographed pieces being performed at those venues. If venues were instead primarily screened for highest percentage of classical ballet relative to total programing, there might be different results.
- There was not enough data to properly examine how company size and venue size interacted due to insufficient data for company sizes at each venue. Additional data would allow for the examination of this critically important interaction, and possibly help explain other relationships discovered in the data as reported above.
- The data was collected for a limited timeframe (18 months), and a study looking at a longer time period would likely yield smoother trends and more accurate results. Each season can be viewed as its own compartmented and self-contained trend, and examining numerous successive seasons might give additional insight into long-terms trends within classical ballet programing. **DDP requires further funding and access to longitudinal programming in order to conduct such research.**

Appendix A

Venue Name	Venue Location	
	City	State
Center for the Art of Performance at UCLA	Los Angeles	CA
The Kennedy Center for the Performing Arts	Washington, D.C.	
Lincoln Center for the Performing Arts	New York	NY
The Guggenheim Museum	New York	NY
Segerstrom Center for the Arts	Costa Mesa	CA
Los Angeles Music Center (Dorothy Chandler Pavillion)	Los Angeles	CA
Denver Performing Arts Complex	Denver	CO
Brooklyn Academy of Music	Brooklyn	NY
American Academy of Music	Philadelphia	PA
Kimmel Center for the Performing Arts	Philadelphia	PA
Adrienne Arsht Center for the Performing Arts of Miami-Dade County	Miami	FL
AT&T Performing Arts Center (Margot & Bill Winspear Opera House)	Dallas	TX
Dr. Phillips Center for the Performing Arts	Orlando	FL
North Carolina Blumenthal Performing Arts Center	Charlote	NC
Jacobs Music Center's Copley Symphony Hall	San Diego	CA
New York City Center	New York	NY
Tennessee Performing Arts Center	Nashville	TN
Kauffman Center for the Performing Arts	Kansas City	MO
The Bushnell Center for the Performing Arts	Hartford	CT
Overture Center for the Arts	Madison	WI
Des Moines Performing Arts	Des Moines	IA
Tobin Center for the Performing Arts	San Antonio	TX
Auditorium Theater of Roosevelt Universiy	Chicago	IL
Aronoff Center (Cincinnati Arts Association)	Cincinnati	OH
Phoenix Symphony Hall	Phoenix	AZ
The Frauenthal Center for Performing Arts	Muskegon	MI
Joyce Theater	New York	NY

Saratoga Springs Performing Arts Center	Saratoga Springs	NY
Joan W. and Irving B. Harris Theater for Music and Dance	Chicago	IL
Benedum Center	Pittsburgh	PA
San Jose Center for the Performing Arts	San Jose	NM
Jacob's Pillow	Becket	MA
Lensic Performing Arts Center	Santa Fe	NM
Seattle Center (McCaw Hall)	Seattle	WA
The Fabulous Fox Theatre	St. Louis	MO
San Francisco War Memorial and Performing Arts Center	San Francisco	CA
Tulsa Performing Arts Center	Tulsa	OK
The Kentucky Center for the Performing Arts	Louiville	KY
Cobb Energy Performing Arts Centre	Atlanta	GA
Wortham Theater Center	Houston	TX
Bank of America Performing Arts Center - Thousand Oaks, CA	Thousand Oaks	CA
Smith Center for the Performing Arts	Las Vegas	NV
Portland'5 Centers for the Arts	Portland	OR
Amarillo Civic Center	Amarillo	TX
The University of Texas Performing Arts Center (Bass Concert Hall)	Austin	TX
Boston Opera House	Boston	MA
Carolina Performing Arts	Chapel Hill	NC
Ferguson Center for the Arts	Newport	VA
Hult Center for the Performing Arts	Eugene	OR
Touhill Performing Arts Center	St. Louis	MO

Appendix B⁵

Venue Name	Board Ldr	Exec Ldr	Venue Ldr
Touhill Performing Arts Center	Unknown	1	1
The Fabulous Fox Theatre	0.778	1	0.889
Jacob's Pillow	0.724	1	0.862
San Jose Center for the Performing Arts	0.706	1	0.853
Center for the Art of Performance at UCLA	0.704	1	0.852
The University of Texas Performing Arts Center (Bass Concert Hall)	0.696	1	0.848
The Kentucky Center for the Performing Arts	0.684	1	0.842
Joan W. and Irving B. Harris Theater for Music and Dance	0.667	1	0.833
Los Angeles Music Center (Dorothy Chandler Pavilion)	0.580	1	0.790
Saratoga Springs Performing Arts Center	0.565	1	0.783
Overture Center for the Arts	0.458	1	0.729
The Kennedy Center for the Performing Arts	0.406	1	0.703
Seegerstrom Center for the Arts	0.372	1	0.686
Portland's 5 Centers for the Arts	0.333	1	0.667
Tennessee Performing Arts Center	0.310	1	0.655
Wortham Theater Center	0.308	1	0.654
Kimmel Center for the Performing Arts	0.303	1	0.652
Dr. Phillips Center for the Performing Arts	0.241	1	0.621
Carolina Performing Arts	0.606	0.5	0.553
Cobb Energy Performing Arts Centre	0	1	0.500
AT&T Performing Arts Center (Margot & Bill Winspear Opera House)	0.485	0.5	0.492
Denver Performing Arts Complex (Ellie Caulkins Opera House)	0.435	0.5	0.467
New York City Center	0.432	0.5	0.466

5 Amarillo Civic Center, Boston Opera House, and Jacobs Music Center Copley Symphony Hall were excluded due to lack of data

Adrienne Arsht Center for the Performing Arts of Miami-Dade County	0.429	0.5	0.464
Mean Board, Executive, and Venue Leadership Score	0.440	0.485	0.463
Joyce Theater	0.423	0.5	0.462
Brooklyn Academy of Music	0.375	0.5	0.438
Phoenix Convention Center & Venues (Orpheum Theater)	0.353	0.5	0.426
Lincoln Center for the Performing Arts (Koch Theater)	0.329	0.5	0.415
Aronoff Center (Cincinnati Arts Association)	0.250	0.5	0.375
Seattle Center (McCaw Hall)	0.667	0	0.333
Kauffman Center for the Performing Arts	0.625	0	0.313
Lensic Performing Arts Center	0.588	0	0.294
San Francisco War Memorial and Performing Arts Center	0.583	0	0.292
Hult Center for the Performing Arts	0.556	0	0.278
Des Moines Performing Arts	0.500	0	0.250
North Carolina Blumenthal Performing Arts Center	0.500	0	0.250
Tulsa Performing Arts Center	0.500	0	0.250
Bank of America Performing Arts Center - Thousand Oaks, CA	0.400	0	0.200
Tobin Center for the Performing Arts	0.391	0	0.196
The Frauenthal Center for Performing Arts	0.391	0	0.196
Benedum Center	0.357	0	0.179
The Guggenheim Museum	0.345	0	0.172
Auditorium Theater of Roosevelt University	0.333	0	0.167
American Academy of Music	0.313	0	0.156
The Bushnell Center for the Performing Arts	0.235	0	0.118
Smith Center for the Performing Arts	0.130	0	0.065
Ferguson Center for the Arts	Unknown	0	0.000

Appendix C

Correlations

A correlation, or correlation coefficient, is a number between -1 and $+1$ that indicates the relationship between two variables. For example, if variable A were perfectly positively correlated with variable B, then any increase in A would be perfectly matched by an increase in B they would have a correlation coefficient of 1. Conversely, if A and B were perfectly negatively correlated, then any increase in A would be perfectly matched by a decrease in B and the two variables would have correlation coefficient of -1 . If A and B were perfectly uncorrelated, then an increase or decrease in one would have no impact on the other and they would have a correlation coefficient of 0.

Variables are very rarely, if ever, perfectly correlated. For example, ambient outdoor temperature and ice cream sales are strongly positively correlated, but the relationship is not perfect. Outside of the extremes (very close to 0 and very close to $+1$ or -1), there is no set agreement on what is universally considered weak, moderate, or strong. The general rule is this: the closer to 0 then the weaker the relationship, and the farther away from 0 the stronger the relationship. For example, a correlation of 0.75 would be considered very strong, 0.4 would be moderate, and 0.15 would be pretty weak.

It is also important to keep in mind that correlation is not the same thing as causation. This study did not include a control group or attempt to manipulate variables in any way, so all we can conclude is whether one variable is associated with another in a statistically meaningful way (more on that below under p-values). Borrowing from the ice cream and temperature example above, one might infer that temperature was causing ice cream sales to rise (and they might be correct). But the association alone does not prove a causal relationship. To demonstrate the counterfactual, one could plot the mean temperature of the earth over the last 400 years against the number of pirate ships in existence. There is a pretty strong negative correlation (as temperature rises, the prevalence of pirates decreases), but it would be wrong (and silly) to conclude that encouraging piracy is an effective means of combating global warming. So please be careful to not infer causation from any correlations discussed in this study.

p-values

A p-value is a numerical probability of obtaining a test result at least as extreme as the results actually observed during the test, assuming that the null hypothesis is correct.

What this means is that a very small p-value indicates a very small likelihood of the relationship observed occurring by chance alone. A large p-value indicates exactly the opposite, meaning that there is a high likelihood of the relationship observed being due purely to chance. For this study, if a p-value is less than 0.05 (meaning that an association would occur by chance less than 1 in 20 times), then the result is considered statistically significant. The lower the p-value, the more significant the observed association is considered to be, with large p-values indicating the opposite.

Appendix D

Supplementary Findings

Below see findings from regressions that concern secondary research questions.

Is Venue Capacity associated with Venue Leadership?

The data does not show a statistically significant relationship between Venue Capacity and Venue Leadership, although there is a slightly positive association between the two with a correlation of 0.174 and a p-value of 0.264 ($p > 0.05$).

Is Venue Capacity associated with Venue Company Leadership?

The data does not show a statistically significant relationship between Venue Capacity and Venue Company Leadership, although there is a slightly negative association between the two with a correlation of 0.206 and a p-value of 0.185 ($p > 0.05$).

Is Company Size associated with Company Leadership?

The data does not show a statistically significant relationship between Company Size and Company Leadership, with a correlation of 0.067 and a p-value of 0.684 ($p > 0.05$).

[For this regression, the two largest companies (Iowa Dance Theatre⁶ and New York City Ballet) were removed as their size relative to the remaining companies created outlier effects on the overall data set.]

⁶ Iowa Dance Theatre is a collaboration between at least 38 different dance studios and includes approximately 240 dancers in addition to various teachers and choreographers. The matrix-style structure of this organization combined with its sheer size makes its direct inclusion in regression analysis related to company size statistically untenable.

Is Company Leadership associated with Number of Pieces Performed?

The data does not show a statistically significant relationship between Company Leadership and Number of Pieces Performed, although there is a slightly negative association between the two with a correlation of 0.24 and a p-value of 0.064 ($p > 0.05$).

[For this regression, the one company (New York City Ballet) was removed as the size of its number of performances relative to the remaining companies created outlier effects in the overall data set.]

Is Company Size associated with Number of Pieces Performed?

The data does show a moderate, positive, statistically significant relationship between Company Size and Number of Pieces Performed, with a correlation of 0.369 and a p-value of < 0.05 .

[For this regression, the two largest companies (Iowa Dance Theatre⁷ and New York City Ballet) were removed as their size relative to the remaining companies created outlier effects on the overall data set.]

Appendix E

Methodology

Raw data for “Venue Leadership” was collected by counting the number of men and women on the board of directors for each venue (“Board Leadership”), as well as counting the men and women occupying the critical roles of CEO/Executive Director and Programing Director for each venue (“Executive Leadership”). The raw data for Board Leadership and Executive Leadership was converted into index scores between 0 and 1 that were derived from basic ratios of women-to-total-numbers, such that the higher the index score (the closer to “1”) the higher the prevalence of women in leadership roles. For example, if a venue had a female CEO and a Male Programing Director, the index score would be 0.5, and if that same venue’s board had 7 men and 3 women on it, the index score would be 0.3. The final Venue Leadership index was calculated by averaging the indexes derived from Board Leadership and Executive Leadership for each venue in the study. For example, the Venue Leadership Index for the example venue above would be 0.4, which is an average of the Executive

⁷ See footnote 6 above.

Leadership Index of 0.5 and the Board Leadership Index of 0.3. A list of the venues ranked by index score is provided in Appendix B.

Raw data for “Company Leadership” was collected by counting the number of men and women occupying the roles of Executive Director and Artistic Director for each company and converting these numbers into an index score derived from basic ratios of women-to-total-numbers in the same manner as described above for Venue Leadership.

Each venue has a “Venue Company Leadership” score, which is an average of the “Company Leadership” indexes that performed at each venue during the given timeframe. To be clear, each company has its own “Company Leadership” index, which signifies that the indexes were not aggregated and averaged by performance venue.

For each venue, raw data was collected for each piece performed by company, and choreographers for each piece were identified as either male or female. Index scores were then created by calculating the ratio of women-to-total-numbers for choreographers for each company and each venue, leading to a “Choreographer Equity” score for each company and each venue. Some companies performed at multiple venues with a different choreographer mix at each, so separate indexes were created to account for venue “selection” and company “selection” with regard to Choreographer Equity. These are separately identified as “Venue Choreographer Equity” and “Company Choreographer Equity.”

The data was then analyzed to look for statistically significant associations between selected variables. Two primary sets of regression analysis were conducted:

- (1) Choreographer Equity serving as the dependent variable set against the independent variables of Venue Leadership and Company Leadership (among other variables such as Venue Capacity (number of seats in a venue), Board Leadership, and Executive Leadership); and
- (2) Company Leadership serving as the dependent variable set against the independent variables of Venue Leadership and Venue Capacity.

“Male” and “Female” designations were determined by how an individual identified rather than by gender at birth. All comparisons were within-group⁸ and each analysis was run with a null hypothesis of “no expected difference” and a 0.95 confidence interval.

⁸ A “within-group” comparison means that the researcher was seeking to identify and explain differences between the different subjects within a single group (in this study, the group would be all venues identified). This differs from a “between-group” comparison, which seeks to identify and explain differences between different groups of subjects (such as “venues in California versus venues in Texas”).

Glossary

The following glossary of terms, which define the variables analyzed for this study, is provided below in order to aid in interpreting the quantitative findings in this section:

- **Venue Leadership:** Index score between 0 and 1 indicating the level of female representation at the executive/decision-making level of a performance venue. The higher the score, the more women occupy leadership roles.
- **Venue Company Leadership:** Index score between 0 and 1 indicating the level of female representation at the executive/decision-making for the companies performing at each venue. The higher the score, the more women occupy leadership roles. This is a venue-specific score at the company level calculated as an average of the “Company Leadership” scores (see below) for each venue.
- **Venue Choreographer Equity:** Index score between 0 and 1 indicating the weighted average ratio of female-choreographers-to-total-choreographers for all works performed at each venue. The higher the number, the higher the ratio of female choreographers represented in the programing at each venue.
- **Venue Capacity:** The number of seats for each venue in the study.⁹
- **Company Leadership:** Index score between 0 and 1 indicating the level of female representation at the executive/decision-making level of a company. The higher the score, the more women occupy leadership roles.
- **Company Choreographer Equity:** Index score between 0 and 1 indicating the weighted average ratio of female-choreographers-to-total-choreographers for all works performed by each company at all venues in this study. The higher the number, the higher the ratio of female choreographers represented in the works performed at the venues in this study.
- **Number of Pieces Performed:** The total number of pieces performed by each company across all venues in this study.

⁹ For one venue (Bank of America Performing Arts Center in Thousand Oaks, California), an average capacity of 1,100 seats was used because this venue has two performance spaces available – a larger space with 1,800 seats, and a smaller space with 394 seats.