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Differences in sales between female and male Brazilian contemporary artists at Christie's, Sotheby's and Phillips

This study used descriptive analysis to investigate the differences in auction sales between females and males. From 2014 to 2023 there were 88 Brazilian contemporary artists with lots in these sales (29.5% females); 730 lots consigned (21.5% females); and total sales of USD54,798,764 (57.3% females). The average female consigned and sold more lots and for higher prices than the average male and sold more above the mid-estimated prices Average values for non-top artists were: 2.9 vs. 2.3 sold lots; USD35,403 vs. USD26,683 average lot price; 1.59 vs. 0.89 sate-to-estimate ratio for females and males, respectively. This indicates females perform better, although they are less in number, suggesting women face higher entrance standards into this high-end market.

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1. Introduction

The idea that female artists are less successful in the art market is not new. It is generally believed that there are less works by female artists in museum collections; less women being represented by art galleries; a smaller number of lots by female artists at auction; and that they achieve a lower sale price. Indeed, the most recent Art Basel & UBS art market report (McAndrew, 2024) points towards this idea of women being "always less". According to the report, women artists are underrepresented in galleries – they are 40% of the artists represented, they are responsible for 39% of sales in galleries operating in the primary market and for 30% in those operating in both markets – and in auction sales – they make up only 11% of the top 200 artists by total sales and represent only 9% of total sale value. But reality is usually more complex than a straightforward "always less", and so are the sources and reasons behind gender differences in the art market.

Cameron et al. (2019) found indications of a more complex reality. Analyzing data from Yale School of Art graduates, they found evidence for the "supply theory" – when there are barriers to women's participation in the market; different from the "demand theory", when market players are biased towards women, attributing less value to their work – as female artists were underrepresented in the auction market, but with higher average sale prices than their male counterparts, when controlling for other variables. This suggests that female artists need higher standards to be accepted. Using a database of Western artists, Bocart et al. (2022) corroborate these findings, except in the contemporary art segment where they found works by male artists sold for 8.3% more.

On the other hand, Adams et al. (2021), using auction data for paintings, found evidence of a cultural bias towards women, with 42.1% lower prices for female artists, a difference that was reduced with higher levels of country gender equality.

In respect to gender parity measures, Brazil does not rank too highly. In 2022 the proportion of seats held by women in parliament was at 18%, when the world average was 26% (World Bank, 2023). In the same year, despite Brazil being classified by the United Nations as having a high Human Development Index[1] of 0.760 (world average of 0.739) and having a Gender Development Index[2] of 1.000 (world average of 0.951), its Gender Inequality Index[3] was of only 0.391, whereas the world average was at 0.462 (UNDP, 2024). However, in the Brazilian art market it is widely believed that the unfavorable bias towards women artists does not apply since, when one thinks of Brazilian artists, a long list of women comes immediately to mind: Tarsila do Amaral, Anita Malfatti, Lygia Pape, Lygia Clark, Swiss-born Mira Schendel and today's Beatriz Milhazes and Adriana Varejão, to name but a few.

In line with Cameron et al. (2019), a recent study by Pereira (2023) showed that only 30% of Brazilian contemporary artists with lots in the main international auction houses were women, but they had a higher average sale price. This same study points to a higher volatility in prices for the group of works by female artists, and a greater concentration of females on the upper quartiles of average prices. A more detailed analysis is thus required to better understand the differences between genders.

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[1] Human Development Inex (HDI) is a measure of a long and healthy life, knowledge and a decent standard of living.
[2] Gender Development Index is the ratio of female to male HDI.
[3] Gender Inequality Index reflects inequality in achievement between women and men in reproductive health, empowerment and labour market.

Therefore, the purpose of the present short study was to investigate auction data for Brazilian contemporary artists in the main international auction houses, from 2014 to 2023, presented in Pereira (2024), and provide a better understanding of the gender differences in this cohort of artists. More specifically, the groups of female and male artists were compared for measures of success, i.e., number of lots, value sold, and relation of sale to pre-sale estimated value. In addition, differences between the two groups of artists were investigated taking into consideration the possible deviations caused by the few top artists who dominate this market.

2. Data collection and analysis

The database for this study was the same as that used in Pereira (2024) and criteria for data collection is summarized as follows:

- Works were by living Brazilian artists and were included when an artist was alive at the time of sale, but not when the sale took place after an artist's death.
- Auction results are from Christie's, Sotheby's and Phillips, for the years of 2014 through to 2023.
    - Only sales registered in London and New York were included, whether they were in-person or online only.
    - Results are from sales of Latin American art and those with titles that implied the inclusion of works of contemporary art – but excluding those sales specific of a collection or of a segment (e.g., photography).
    - Data were collected directly from the auction houses' websites, either during or soon after the sale.
- Unless otherwise stated, sale values are for premium prices (including buyer's fees) in US dollars, using conversion rates from GBP to USD for date of sale (Oanda FX Data Services).

Due to the narrow segment of the art market (Brazilian contemporary artists in the main international auction houses) and the small number of years (ten) being looked at, the number of data entries is relatively small. As power for a comparative statistical test would require a greater sample size, this study was restricted to descriptive analysis looking into number of lots, sale values and relation to pre-sale estimates, and results are, therefore, hypotheses to be confirmed or not in further studies.

3. Overview of the data

There were 88 artists with a total of 730 works consigned for auction during this period. Of these artists, 29.5% (26) were female, 70.5% (62) were male, and there were three women and eight men who died during the data collection period (12.5% of all artists).

A total of 517 lots were sold (a success rate of 70.8%), fetching USD54,798,764 in these ten years and with an overall average lot of USD105,994.

According to previously established criteria for classifying a top artist (Pereira, 2024) – i.e., where the artist must satisfy two of (1) 10 or more lots sold; (2) USD100,000 or more average lot price; and (3) USD500,000 or more total sold – this group contains nine top artists, one third of them females (Table 1).

A few points should be noted about these top artists: (1) Abraham Palatnik is much older, the only deceased among these artists, and data for his works were not collected after his death in May 2020; (2) Vik Muniz, with 202 sold lots (275 consigned lots), is detached from any of his peers in these terms; (3) Adriana Varejão and Beatriz Milhazes, both with approximately USD560,000 average lot price, rank far above the others; and (4) Lucas Arruda and Marina Perez Simão, younger than any of the other top artists and both having only recently joined these high-end sales, reached higher average prices than the other top artists, except for the two above-mentioned women, and had very low bought-in rates (percentage of unsold lots in relation to consigned lots).

Together, the nine top artists were responsible for 65.2% of the number of lots consigned, 69.8% of number of lots sold and 90.5% of the total value sold (Figure 1A).

Table 1 – Number of lots and value sold by each top and the group of non-top Brazilian contemporary artists in the main international auction houses from 2014 to 2023.

Artist	Number of lots		Value sold (USD)	
	consigned	bought-in rate*	total	average
Abraham Palatnik (1928-2020)	7	28.6%	618,000	123,600
Adriana Varejão (b.1964)	23	21.7%	9,989,741	554,986
Beatriz Milhazes (b.1960)	37	13.5%	17,975,064	561,721
Cildo Meireles (b.1948)	46	26.1%	2,544,576	74,840
Ernesto Neto (b.1964)	28	35.7%	551,189	30,622
Lucas Arruda (b.1983)	23	8.7%	4,890,343	232,873
Marina Perez Simão (b.1980)	5	0.0%	874,107	174,821
Os Gêmeos (b.1974)	32	18.8%	3,189,609	122,677
Vik Muniz (b.1961)	275	26.5%	8,949,433	44,304
non-top artists	254	38.6%	5,216,702	33,440

* number of bought-in lots divided by number of lots consigned

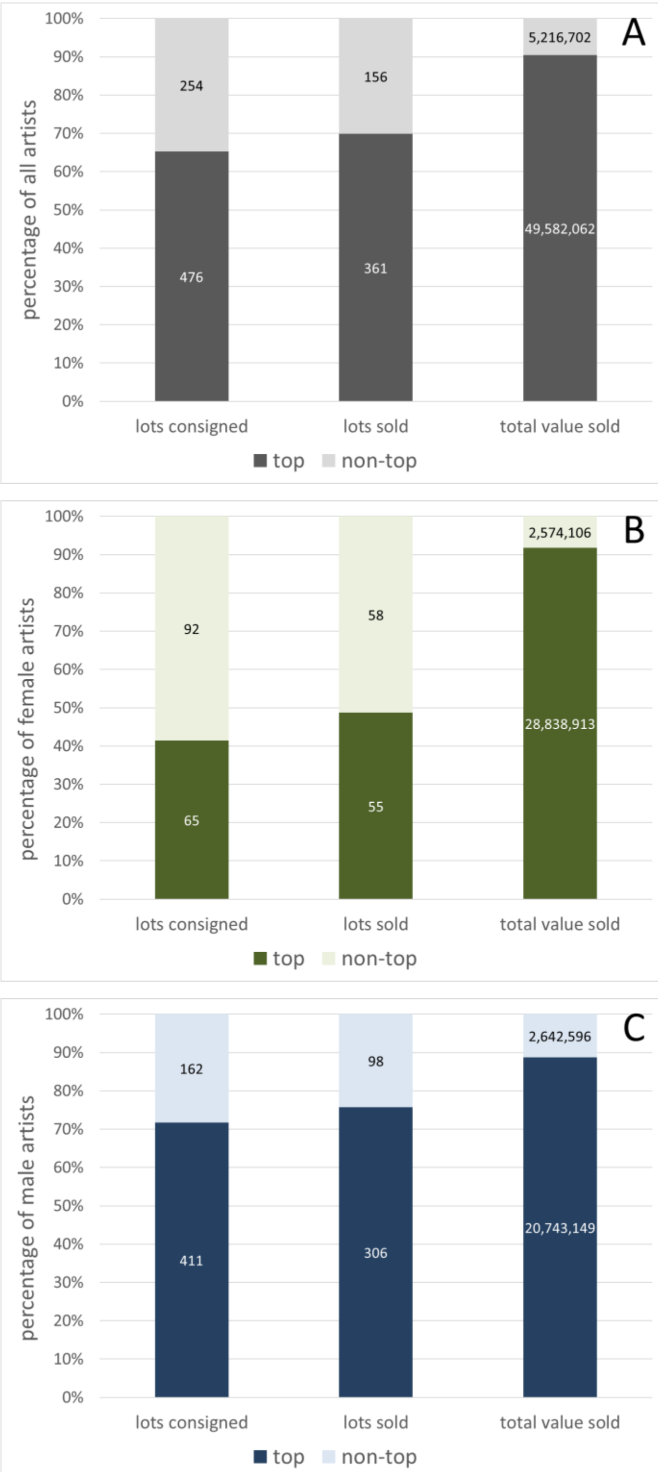


Figure 1 – Percentage of number of lots consigned and sold and total value sold (USD) by top and non-top artists for: Panel A – all artists; Panel B – only female artists; Panel C – only male artists.

4. Comparing females with males

Representing less than one third of the artists in these sales, the number of lots by women was also less: of the 730 lots consigned, 21.5% were from female artists and, of the 517 sold, 21.9% were made by women. However, of the total of USD54,798,764 sold, 57.3% were from sales of works by women.

4.1. The top artists

Within the group of women, the three top females were responsible for 41.4% of all lots consigned, 48.7% of all lots sold and a staggering 91.8% of the total value sold (Figure 1B). The latter is most probably due to the much higher average prices achieved by Adriana Varejão and Beatriz Milhazes.

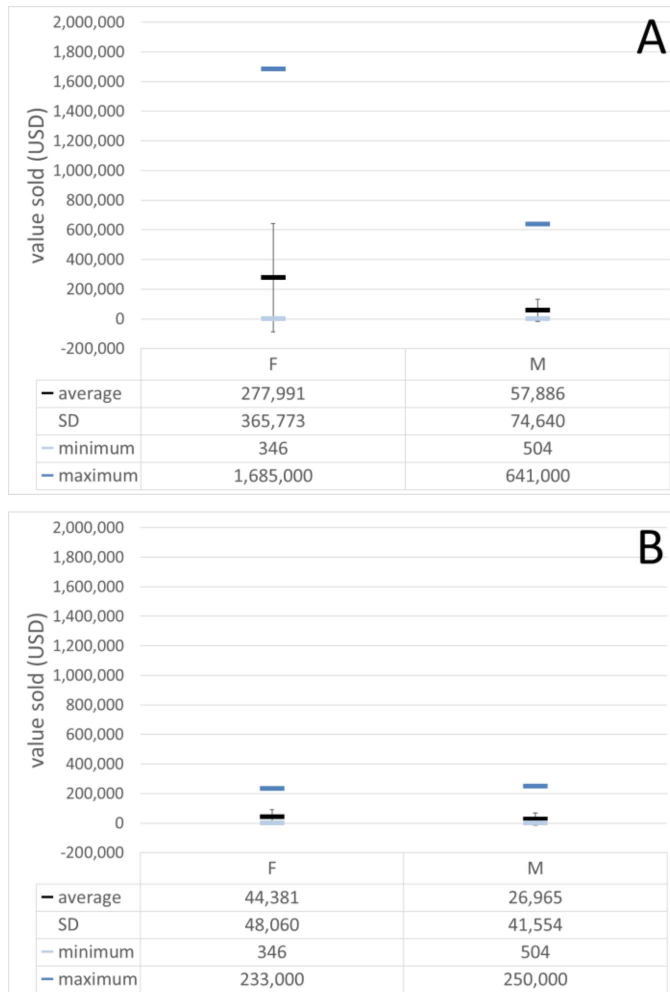
Within the group of men, the six top men had a higher proportion of lots consigned (71.7%) and lots sold (75.7%) than seen for women, but a slightly smaller share (88.7%) of their group's total value sold (Figure 1C). This was due to the high number of lots by Vik Muniz, as eliminating entries for his works, the remaining top men represent 45.6% of lots consigned, 51.5% of lots sold (percentages which are closer to those of the females), and a reduced 81.7% of total value sold for males. The high number of lots but relatively low average price for Vik Muniz (Table 1) can be explained by the fact that his works are mainly photographs, works on paper which are produced as limited editions and, thus, usually command a lower price than unique works of art.

As for presence in the more prestigious Contemporary Evening sales, it is not surprising that the only artists with lots consigned and sold were top artists. More unexpected, though, is the fact that all three top women were present but, of the top men, only Lucas Arruda had lots sold in these prestigious sales. The distribution of top and non-top artists with lots sold on the other types of sales was similar between females and males.

It is clear that these top artists, except for Ernesto Neto, have characteristics that differ widely from the non-top artists (Table 1) and, therefore, could be responsible for the differences seen between males and females. This can be further illustrated by Figure 2, which shows values of sales for the group of works made by female and male artists.

It is evident that the higher average prices of lots by women artists (USD277,991 vs. USD57,886 by men), and the large volatility, even when proportional to the average (coefficient of variation, CV, of 131.6% vs. 128.9%, respectively) (Figure 2A), were related to lots by the three top female artists. Excluding lots by top artists from both groups (Figure 2B) reduced the differences in average value sold (USD44,381 vs. USD26,965) and left lots by male artists with a relatively higher variation (CV of 108.3% for females vs. 154.1% for males). Nonetheless, lots by women still elicited 164.6% higher average values.

As the three top women represent 11.5% of the number of female artists (13.0% of those with lots sold), the six men represent 9.7% of the male artists (12.2% of those with sold lots), and these proportions do not differ much between them, it seems reasonable, when comparing females and males in the analyses that follow, to exclude these artists without interfering in the proportionality of the two groups.



	F	M
average	277,991	57,886
SD	365,773	74,640
minimum	346	504
maximum	1,685,000	641,000

	F	M
average	44,381	26,965
SD	48,060	41,554
minimum	346	504
maximum	233,000	250,000

Figure 2 – Average, standard deviation and range of sale value for the group of lots by female (F) and male (M) artists for: Panel A – all artists; and Panel B – only non-top artists.

4.2. Female artists vs. male artists

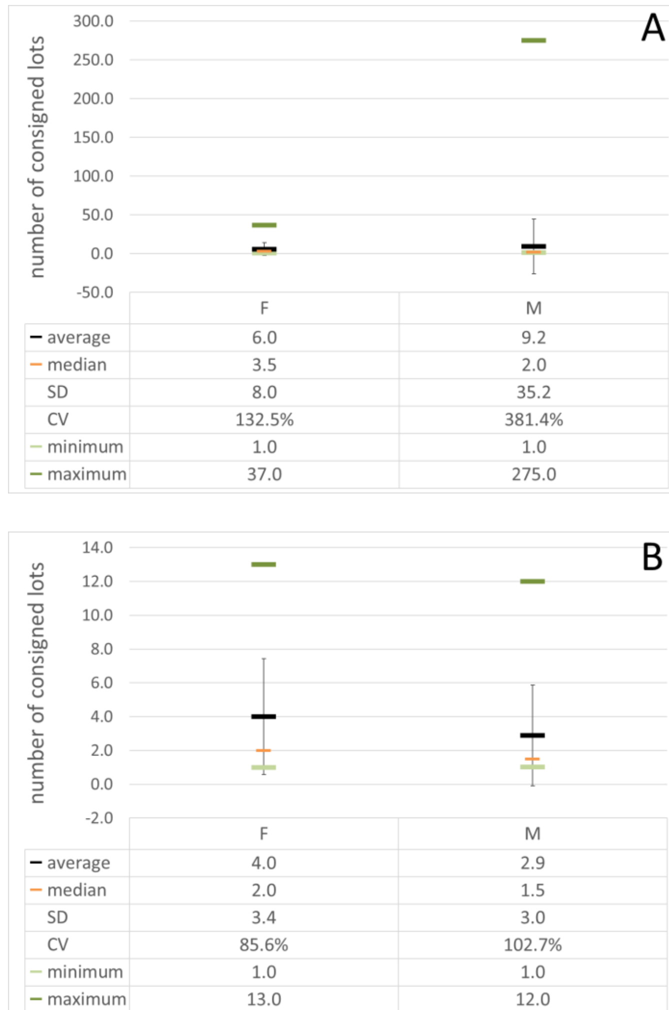
To better understand possible differences between the groups of female and male artists, a set of variables were calculated for each artist, namely: number of lots consigned and sold, bought-in rate, total value sold, average lot value, and sale-to-estimate ratio (relation of sale to mean pre-sale estimated value).

Comparisons were then made between the groups of female and male artists for each of these variables. Note that comparing the two groups of artists is different from comparing groups of lots (by female and male artists), as was the case represented in Figure 2.

4.2.1. Number of lots

Considering the number of women artists (26) was less than half that of men (62) it is no surprise that, overall, there were less lots consigned by female artists (157), than by males (573). Less expected, if one were to assume to be no differences between the groups, was that the average number of consigned lots by a female artist was less than that by a male artist (6.0 vs.9.0) (Figure 3A). However, the median number of lots consigned by females was higher (3.5 vs. 2.0) and males showed a greater variability.

The greater average number of lots and the greater variability of the males were due to the top artists, most likely Vik Muniz (Table 1), as removing them from the dataset (Figure 3B) resulted in females having both greater average and median number of lots consigned, and differences in variability between the two groups were much reduced, although men remained with a greater relative variability (CV of 85.6% vs. 102.7%).



A	F	M
average	6.0	9.2
median	3.5	2.0
SD	8.0	35.2
CV	132.5%	381.4%
minimum	1.0	1.0
maximum	37.0	275.0

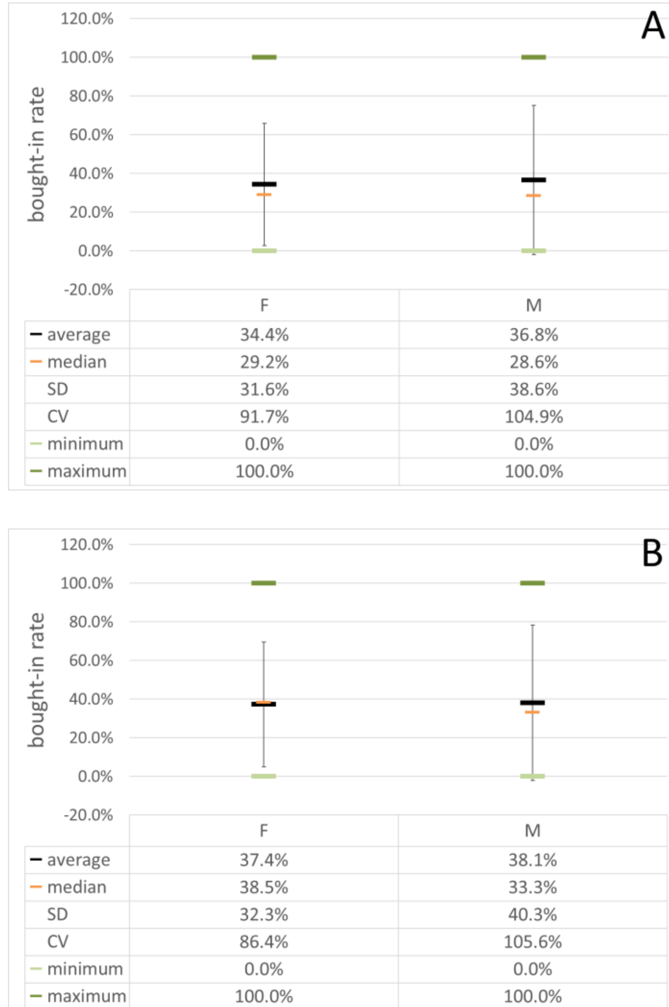
B	F	M
average	4.0	2.9
median	2.0	1.5
SD	3.4	3.0
CV	85.6%	102.7%
minimum	1.0	1.0
maximum	13.0	12.0

Figure 3 – Measures of central tendency and variability for the number of lots consigned by female (F) and male (M) artists for: Panel A – all artists; and Panel B – only non-top artists. SD is the standard deviation and CV the coefficient of variation. Note that, for better visualization in Panel B, the scales of the two panels are different.

The group including all female artists also had lower average (34.4% vs. 36.8%) and higher median (29.2% vs. 28.6%) bought-in rates than that of males (Figure 4A), and males showed greater variability. However, in this instance, differences between the groups were maintained when top artists were excluded (Figure 4B), with average and median rate increasing for both, as would be expected, since top artists had lower bought-in rates than non-top artists (Table 1).

Despite the differences in bought-in rates mentioned above, the actual rates for females and males were not much far apart, both for all artists and for only non-top artists, and, thus, what was seen when comparing sold lots (Figure 5) is similar to what was shown for consigned lots (Figure 3).

Thus, differences in number of lots, however small they may seem, indicate females might be performing better than males, with the average female consigning and selling more lots than the average male. In addition, a greater variability for males may be indicative that these international auction houses receive works from a wider range of professional achievement for male Brazilian contemporary artists, when compared to females.



	F	M
average	34.4%	36.8%
median	29.2%	28.6%
SD	31.6%	38.6%
CV	91.7%	104.9%
minimum	0.0%	0.0%
maximum	100.0%	100.0%

	F	M
average	37.4%	38.1%
median	38.5%	33.3%
SD	32.3%	40.3%
CV	86.4%	105.6%
minimum	0.0%	0.0%
maximum	100.0%	100.0%

Figure 4 – Measures of central tendency and variability for bought-in rate by female (F) and male (M) artists for: Panel A – all artists; and Panel B – only non-top artists. SD is the standard deviation and CV the coefficient of variation.

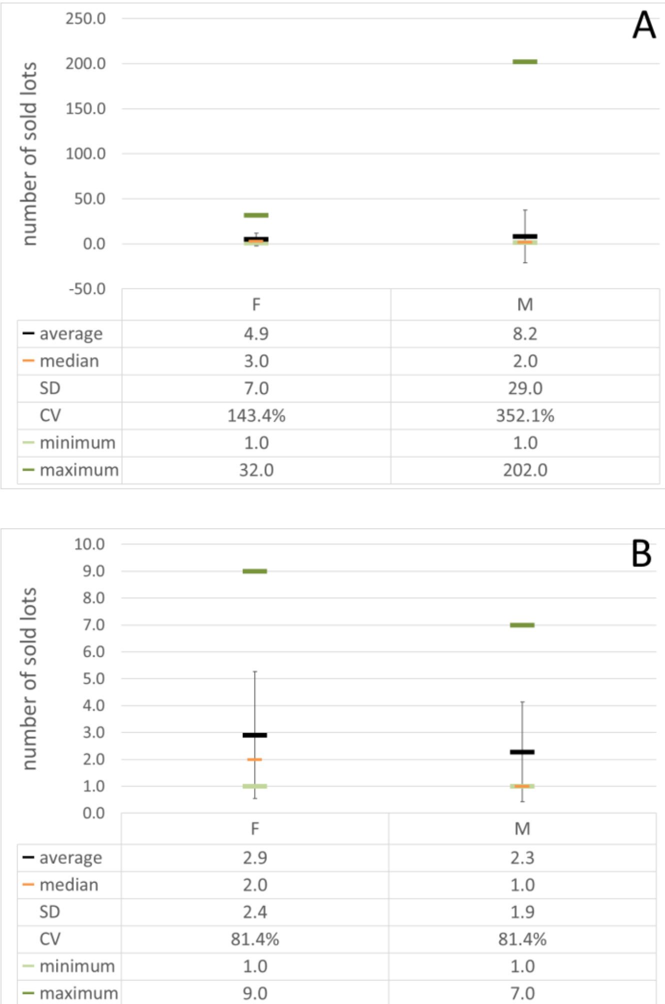


Figure 5 – Measures of central tendency and variability for the number of lots sold by female (F) and male (M) artists for: Panel A – all artists; and Panel B – only non-top artists. SD is the standard deviation and CV the coefficient of variation. Note that, for better visualization in Panel B, the scales of the two panels are different.

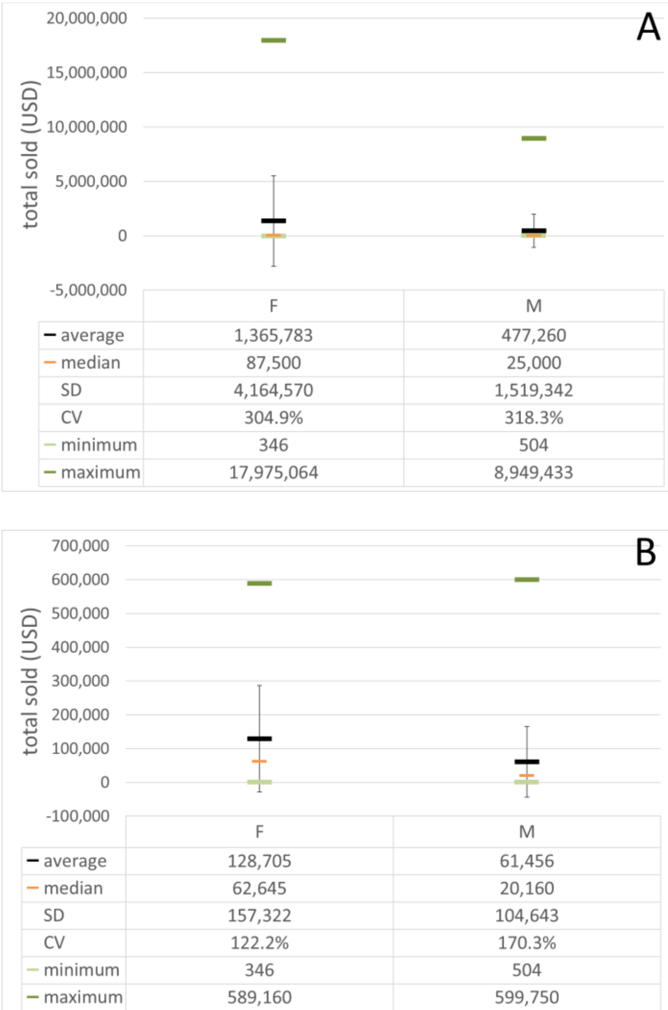
4.2.2. Sale values

It is visible from the present dataset that female artists sold for higher prices than males, whether top artists are included or not. Figures 6A and 7A show that, including all artists, the average female artist had higher total sales (average USD1,365,783 vs. USD477,260, and median USD87,500 vs. USD25,000) and a higher average lot price (average USD86,939 vs. USD36,251, and median USD33,433 vs. USD15,000), whereas males had a higher relative variability for total sales (CV of 304.9% vs. 318.3%), but not for the average lot price (177.4% vs. 157.1%).

Excluding top artists (Figures 6B and 7B), females still had higher total sales (average USD128,705 vs. USD61,456 and median USD62,645 vs. USD20,160) and average lot price (average USD35,403 vs. USD26,683 and median USD26,315 vs. USD14,437), but males now had greater variability on both total sales (CV of 122.2% vs. 170.3%) and average price (CV of 87.3% vs. 179.5%).

The latter is most probably due to Adriana Varejão and Beatriz Milhazes since, as both artists had higher average sales value than any of their peers (Table 1), their presence is bound to influence the variability in the female group, most notably in average value sold, thus increasing the variability for the group of all female artists.

Here again, as for number of lots, sale-value figures point towards a higher performance by women artists, and a greater range of professional achievement for men.



Panel A

	F	M
average	1,365,783	477,260
median	87,500	25,000
SD	4,164,570	1,519,342
CV	304.9%	318.3%
minimum	346	504
maximum	17,975,064	8,949,433

Panel B

	F	M
average	128,705	61,456
median	62,645	20,160
SD	157,322	104,643
CV	122.2%	170.3%
minimum	346	504
maximum	589,160	599,750

Figure 6 – Measures of central tendency and variability for the total value sold by female (F) and male (M) artists for: Panel A – all artists; and Panel B – only non-top artists. SD is the standard deviation and CV the coefficient of variation. Note that, for better visualization in Panel B, the scales of the two panels are different.

Panel A

	F	M
average	86,939	36,251
median	33,433	15,000
SD	154,252	56,939
CV	177.4%	157.1%
minimum	346	504
maximum	561,721	250,000

Panel B

	F	M
average	35,403	26,683
median	26,315	14,437
SD	30,894	47,893
CV	87.3%	179.5%
minimum	346	504
maximum	109,667	250,000

Figure 7 – Measures of central tendency and variability for the average value sold by female (F) and male (M) artists for: Panel A – all artists; and Panel B – only non-top artists. SD is the standard deviation and CV the coefficient of variation. Note that, for better visualization in Panel B, the scales of the two panels are different.

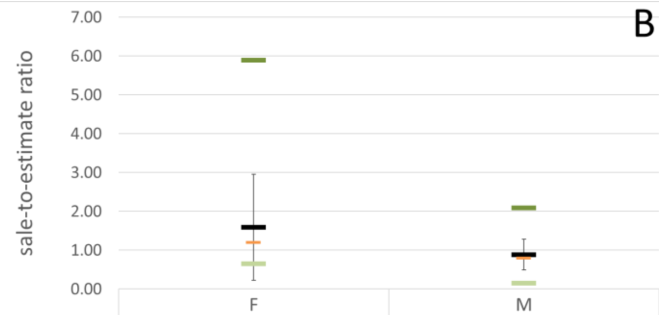
4.2.3. Sale-to-estimate ratio

The database consists of 330 sold lots for which hammer prices (sale price without fees) were available, representing 63.8% of the total number of sold lots (62.8% for the female and 64.1% for the male groups). In this subgroup, there were 53 artists of which 30.2% were women, maintaining a similar proportionality as in the entire group (29.5% females). This section refers to these entries, comparing hammer prices to mid-estimate values (i.e., the mean between low and high estimates).

The sale-to-estimate ratio was calculated as the ratio between hammer price and mid-estimate for each sold lot. A value less than 1.0 means that the lot was sold for a hammer price lower than the mid-estimated value and, conversely, a value greater than 1.0 means it was sold for a higher price.

Once more, data indicate that females performed better than males. Average and median values in Figure 8 show that females sold around 20-59% above their mid-estimated value (ratios between 1.20 and 1.59), whereas males sold 8-20% below theirs (ratios between 0.92 and 0.80). There was, however, a greater variability for the group of women artists, both for all artists (CV of 81.0% vs. 42.4%) and for the non-top only (CV of 86.0% vs. 45.0%). It is possible that this greater variability could simply be the result of the small number of female artists for which hammer prices are available (19, 16 of which are non-top), and/or that there were some outlier sales in this ten-year period.

	F	M
average	1.56	0.92
median	1.24	0.83
SD	1.26	0.39
CV	81.0%	42.4%
minimum	0.65	0.14
maximum	5.90	2.09



	F	M
average	1.59	0.89
median	1.20	0.80
SD	1.37	0.40
CV	86.0%	45.0%
minimum	0.65	0.14
maximum	5.90	2.09

Figure 8 – Measures of central tendency and variability for sale-to-estimate ratio by female (F) and male (M) artists for: Panel A – all artists; and Panel B – only non-top artists. SD is the standard deviation and CV the coefficient of variation.

It could be argued, when comparing sale prices to estimated values, that selling above the estimated value was not indicative of success, but due to a biased low-price expectation by auction houses for women artists, which then were not confirmed by collectors' willingness to pay. But it should be noted that the auction houses considered in this study are the most important in the Western world, with experienced professionals, and that it is unlikely, although not impossible, that they should consistently underestimate a specific group of artists.

5. Conclusions

This short study set out to look more carefully into auction data for Brazilian contemporary artists to better understand differences in performance between female and male artists. Although the number of artists and consigned lots is relatively small, preventing the use of a comparative statistical test, especially if one were to take into consideration all the intervening variables important in determining the price of an artwork, the descriptive analyses conducted shed some light into the issue and allowed the formulation of a hypothesis for future studies, whenever more data is available.

Less than one third of the Brazilian contemporary artists who made it to the main international auction houses were women. Nonetheless, they seem to have performed better as, on average, they consigned and sold more lots, and for higher prices than their male counterparts, although their bought-in rate was fairly similar to that of the males. Women artists also sold for higher prices than estimated, whereas men sold slightly below. All this was irrespective of any effects brought by top artists as excluding them resulted in the same kinds of differences between the two groups.

These observations reinforce the idea that the "supply theory", when there are barriers that make it harder for women to enter the market, applies to the international auction market for Brazilian contemporary artists. This could explain why women reach higher sale prices, as those few who make it will need higher standards to get in. Noteworthy is the fact that three female artists had lots in the most prestigious Contemporary Evening sales and only one male did. These higher standards for women could also explain why, in general, the male group of artists showed greater variability, as this could mean that there is a greater difference in level of professional achievement among the men who make it to these auctions.

A better performance by these women artists explains the common assumption that, in the Brazilian art market, women are not worse off but, on the contrary, are more prominent. Nevertheless, this hides the fact that less of them manage to succeed.

Despite the present evidence, until enough data is available for a more thorough analysis, these results remain a hypothesis to be further tested. It is hoped, though, that the present information can set a basis for future studies.

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